Section 404 Permit Application
for
Wetland Impacts Associated
with the
Jackson Hole Mountain Resort
Facility Improvements

Prepared for:

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Jackson Hole, Wyoming

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1.0 INTRODUCTION

Implementation of the proposed project discussed herein would involve the fill of jurisdictional wetlands. A wetland delineation report (Wetlands Delineation Report for Portions of the Jackson Hole Ski Resort Special Use Permit Area, Teton Village, Wyoming) (PESI 1999) was submitted to the United States Army Corps of Engineers (USACOE) in October 1999. This report concerned areas below 7000 feet in elevation and selected areas above that elevation. Since this submittal, however, two wetlands have been located that were not originally delineated in the 1999 report. Also, the January 2001 Supreme Court decision in Solid Waste Agency of Northern Cook County (SWANCC) *vs*. U.S. Army Corps of Engineers (No. 99-1178) changed the criteria used to determine jurisdictional wetlands. Due to these two factors, Jackson Hole Mountain Resort (JHMR) submitted an updated wetland delineation report (Wetlands Delineation Report for Portions of the Jackson Hole Mountain Resort Special Use Permit Area, Teton Village, Wyoming - PESI 2003). The USACOE has made a preliminary jurisdictional determination for this updated delineation report (Johnson 2003). JHMR understands that this determination is subject to change, pending a site visit by the USACOE. All impacts for the proposed improvement project have been previously disclosed and analyzed in appropriate United States Forest Service (USFS) National Environmental Policy Act (NEPA) documents (USDA-FS 1996a; USDA-FS 2000a) and approved in associated decision documents (USDA-FS 1996b; USDA-FS 2000b).

1.1 PROJECT CONCEPT

The Jackson Hole Mountain Resort, a year-round recreational resort, is located in Teton Village, Wyoming, approximately 12 miles northwest of Jackson, Wyoming. With the exception of the facilities at the base of the resort, JHMR is located on the Bridger-Teton National Forest (BTNF) and operates under a Special Use Permit (SUP) (USDA-FS 1997) from the U.S. Forest Service. The proposed project has been approved by the USFS in a Record of Decision (ROD) (USDA-FS 1996b) and Decision Notice and Finding of No Significant Impact (USDA-FS 2000b) and would occur entirely within the 2,412-acre SUP area. The SUP area is bordered by the BTNF to the south and southwest, Grand Teton National Park (GTNP) to the north and west, and private land on the east and south. Figure 1 depicts the property boundaries and major landowners in the vicinity of the JHMR SUP area.

The proposed project for JHMR consists of several separate actions, including the replacement and realignment of a ski lift and associated grading, movement of the lower terminal of another lift, lengthening of an existing man-made terrain feature (half-pipe), creation of one new trail, and expansion of another.

Impacts to all wetlands identified in the updated wetland delineation report are discussed in Section 4.1. However, it is possible that some of the currently delineated wetlands may be determined to be non-jurisdictional in the final delineation determination by the USACOE. The movement of specific wetlands into a non-jurisdictional status would result in a reduction in the total accountable impacts to wetlands. Impacts to air quality, visual resources, socioeconomic, and transportation environments would not be significant (USDA-FS 1996b; USDA-FS 2000b).

1.2 Development Goals and Purpose

The overall intent of the Jackson Hole Mountain Resort proposal is to improve the safety and recreational opportunities offered to guests while managing lands in the SUP area in a manner consistent and compatible with the purposes for which the special use permit was issued. More specifically, the project has the following goals and purposes:

- Improve the function of facilities at JHMR.
- Improve the quality of facilities at JHMR.
- Make more efficient use of the SUP area to match the skier market.
- Enhance the year-round public recreation opportunities at JHMR.
- Minimize physical, biological, and overall environmental impacts wherever and whenever possible.
- Ensure that public safety is a primary consideration in design of all public service facilities, particularly for beginners and novice skiers.

2.0 DESCRIPTION OF THE PROPOSED ACTION

In keeping with the goals and purpose for the project stated above, the actions proposed have desired outcomes such as improved safety, better circulation and movement of guests on the slopes and at the base of the resort, meeting the demand for the terrain and features guests expect at winter resorts, and maintaining economic viability of the ski operation. All actions have been designed to minimize impacts to the natural environment, including wetlands, and at the same time meet the project goals in a realistic manner.

2.1 Lift And Base Area Improvement

2.1.1 Eagle's Rest Lift Replacement

JHMR plans to replace and realign the existing Eagle's Rest Lift with a new detachable lift. This action is needed for several reasons:

- The existing lift was built in 1964 and is outdated and difficult to service.
- The new lift would increase the comfortable carrying capacity for beginner and novice level guests.
- The available terrain and opportunities for beginner and novice level guests are presently lacking in comparison to the number that use the mountain.
- The carrier on a detachable lift slows down while skiers are loading and unloading, which is an important safety feature for the beginners and novices who would primarily be using this lift.

- Access to services and amenities such as Solitude Cabin proposed for use by the Ski and Snowboard School must be improved.

Under the proposed action, the existing Eagle's Rest Lift would be replaced with all new equipment and realigned. This new lift would have 65-foot long terminals at both the top and bottom of the lift and a small control building (operator station) adjacent to both terminals as part of their structures. These structures house the lift control equipment and are a necessary component of the lift systems.

The lower terminal would be moved approximately 75 feet downslope toward the southeast from the existing terminal. Currently, guests must walk upslope from the base area, gaining approximately 20 feet in elevation, in order to access the Eagle's Rest Lift. The current lift is under-utilized because access is uphill and not convenient.

Grading in the vicinity of the new lower terminal location would be necessary for placement of the lower terminal building and control building. The proposed grading would also facilitate the walk from different parts of the base area to the lift and reduce the slope of the two trails that merge into this area. Because this is a high-traffic area (an estimated 85% of all guests would enter or exit the resort through this "portal"), it is important to reduce the slope in order to slow down the skiers and snowboarders entering this area from upslope, thereby reducing the risk of collision-related injuries. For this reason, JHMR would like to see grades averaging 10% or less instead of 15% in the vicinity of the base area. The total area proposed to be graded at the base area for the placement of the lower terminal and grade reduction is approximately 2.52 acres.

The top terminal of the new Eagle's Rest Lift would be moved 310 feet to the northeast under the proposed action. This location was chosen to improve access to services and amenities. In order to construct the terminal, accommodate the unloading area, and create clearance for the carriers approaching the terminal, approximately one acre would be cleared of trees and graded. Approximately one-third of this acre would be filled to raise the elevation of the terminal. In order to create the proper grade for unloading, and to access Solitude Cabin and the new Ski and Snowboard School use, fill would be necessary to raise the elevation where the top terminal is to be placed.

2.1.2 Teewinot Lift Modification

In conjunction with plans to realign the Eagle's Rest Lift, JHMR proposes to move the lower terminal of the Teewinot Lift upslope to the northwest approximately 60 feet and raise the lift nine feet higher than its current elevation. Because of the growth of JHMR in recent years and the increased number of user days, the base area has become overcrowded. The lower terminal of this lift occupies an area that needs to be expanded as a valuable common area. It is presently an impediment to the safe circulation of skiers and snowboarders coming down the mountain into the base area. Currently, this area is only 15 feet from the SUP boundary, causing congestion with guests moving between the lift area, adjacent businesses at the base of the resort, and skiers and snowboarders coming down the hill. Moving the lift upslope would increase safety by reducing congestion.

Part of the lower terminal installation for both the Eagle's Rest and Teewinot lifts includes a control building placed between the two terminals. Typically, one such structure is placed next to every lift terminal. In this case, one control building can be used to service both lifts.

2.1.3 Antelope Flats Trail Expansion

JHMR also proposes to expand the existing Antelope Flats Trail. This trail provides skiing for beginners and novices and is accessed primarily by the Eagle's Rest and Teewinot Lifts. Increased and improved terrain for beginners and novices are in great demand. The expansion would provide for this need by widening the existing upper portion of the trail. Because of the recent and expected increase in usage, some trees at the lower end of the trail would be cleared to create a safe merging zone with the Lower Teewinot Trail.

2.1.4 Complimentary Action Needed for Implementation of the Proposed Project

An existing culvert system for the Solitude Creek drainage lies within the area of these base area projects (Figure 2). This culvert system is old and failing at many locations. The system is proposed to be replaced and realigned for improved function, safety, and ecological health. The new alignment has been designed to incorporate as few linear feet of culvert as possible while maintaining a steady downhill grade. The channel would pass through culverts where it crosses an established trail. JHMR feels that culverts are needed in these locations for function and safety reasons. Since Solitude Creek flows perennially, snow would not accumulate where the creek crosses the trails. Allowing Solitude Creek to pass through a culvert in these locations prevents this obvious hazard of leaving open stream exposed in the middle of a trail. Leaving the channel open elsewhere would allow Solitude Creek to contribute to the hydrology of adjacent wetlands. Dredging would be required to create the new alignment of the channel, and the old channel would be filled. The grading plan, the creation of the merging zone from the Antelope Flats trail into the Lower Teewinot Trail, and the expansion of wetlands (discussed in greater detail in Section 5.2) were the primary factors dictating the proposed realignment of Solitude Creek.

2.2 Half-pipe (Man-made Terrain Feature)

A half-pipe is currently located approximately 500 feet upslope (north) of the upper terminal of the Teewinot Lift. The current half-pipe consists of two parallel earth berms approximately 70 feet apart with an average trough to peak height of twelve feet. The west berm is currently 410 feet long, while the east berm is 340 feet long. Half-pipes are in greater demand each year as the popularity of this aspect of winter sports continues to grow. To be certified for International Ski Federation (FIS) sanctioned events, however, half-pipes must be at least 400 feet in length, with slopes ranging from 26-40%. Therefore, JHMR proposes to extend the east berm an additional 70 feet downslope to achieve an overall half-pipe length of 410 feet. The additional ten feet of length beyond what is required by the FIS would account for ten feet of tapering so that the half-pipe does not come to an abrupt and dangerous end. Since grades upslope of the existing half-pipe are in excess of 40%, extending the east berm downslope is the only viable option without constructing an entirely new half-pipe. Additionally, it is important for half-pipes to be on

southeast facing slopes so that both walls have approximately the same snow conditions. The existing half-pipe has this proper aspect. Due to the growing popularity of half-pipe events and competitions, this portion of the project is vital to the long-term success of the resort. An added benefit of having a half-pipe which guests would be more likely to use is increased safety. Since advanced level skiers and snowboarders predominantly use features like this, the presence of a quality facility helps to separate the high-speed users from the beginners.

The half-pipe has been approved by the Forest Service to be constructed to a total length of 500 feet in this location (USDA-FS 2000b). Construction for the extension of the half-pipe is scheduled to begin in August 2003, and is expected to be completed by the end of September 2003.

2.3 New Eagle's Rest Cut-Off (New Beginner / Novice Trail)

A new beginner / novice level trail is planned near the base of the resort. This trail would primarily be accessed by the new Eagle's Rest Lift. Beginner and novice level terrain is currently lacking in comparison to demand. The new Eagle's Rest Cut-Off Trail would alleviate this shortage, provide more options to ensure the smooth operation of the Ski and Snowboard School, and improve the guest circulation in this area.

The trail would begin near the top of the existing Eagle's Rest Trail, continue through a forested island, and end by merging into the lower portion of the existing Eagle's Rest Cut-Off Trail. Trail construction would consist mainly of clearing trees and grading. Two culverts would also be installed where the trail would cross a channeled wetland. These culverts would allow equipment to safely cross the wetland. Small portions of the existing trails would also be widened. The widening is needed to create the safe entrance into and merging exit from the new Eagle's Rest Cut-Off Trail. JHMR has tentatively planned for this work to take place in July 2004.

3.0 SITE DESCRIPTION

3.1 Hydrology

The JHMR is in the Fish Creek drainage, a sub-watershed to the Snake River Watershed. Fish Creek drains approximately 94 square miles in extent above its confluence with the Snake River, and is classified as a Class 1 stream by the Wyoming Department of Environmental Quality. All surface water run-off from JHMR flows into the headwaters of Fish Creek (USDA-FS 1996a). However, some groundwater is transported to the Granite Creek watershed, which originates northwest of the SUP area, in Grand Teton National Park. This occurs primarily because of underlying impervious shale layers that are tilted away from the valley floor and back towards the western slopes. The hydrology for the JHMR is dominated by snowmelt runoff, with peak flows typically occurring from May through June. Generally, most of the precipitation in the area occurs as snow in the winter and early spring, although isolated precipitation events in summer months have the potential to deposit significant amounts of rain in a short time period.

No portion of the project area is within the 100-year floodplain as designated by the Federal Emergency Management Agency (FEMA).

The JHMR SUP area contains numerous drainages, many with small channels that consist mainly of bed and bank and appear to contain water only during seasonal runoff and storm events. Channels typically begin in large, wet, soggy groundwater discharge sites. Vegetation associated with the channels ranges from none to riparian and/or wetland. There are also seeps within the drainages not associated with channels. The water from some of these seeps reenters the ground where there is a change in slope.

Two creeks drain a large portion of the existing base area: Solitude Creek and Crystal Springs Creek. Flow in Crystal Springs Creek is controlled by several head gates. In the summer, a portion of the flow in Crystal Springs Creek flows through a pond before exiting private property. It then flows into Solitude Creek/Fall Creek at the base of the mountain.

3.2 WETLANDS

Wetlands are a special case of waters of the U.S., under the jurisdictional authority of the U.S. Army Corps of Engineers. It is the responsibility of the USACOE to make the final determination of the wetlands present, their boundaries, and jurisdiction. Two wetland delineation reports (PESI 1999; PESI 2003) were submitted to the USACOE. JHMR submitted the latter report because of a US Supreme Court Ruling in January 2001 concerning the Solid Waste Agency of Northern Cook County (SWANCC), which changed the criteria for determining the jurisdictional status of wetlands. As of the submittal of this application, the USACOE has given JHMR a preliminary jurisdictional determination concerning its wetlands.

Wetland field surveys identified 19.69 acres of wetlands (Johnson 2003; PESI 2003) (Table 1). These areas were classified by vegetation covertypes.

Table 1. Summary of Wetlands Classification at JHMR.

Wetland Type	Wetlands (in acres)
Herbaceous	3.73
Herbaceous/Tall Forb	0.47
Scrub/Shrub	10.27
Forested	4.11
Total Acreage	**19.69**

3.3 GEOLOGY AND SOILS

JHMR is located on the east-facing slopes of the Teton Range at the base of Rendezvous and Après Vous Mountains. The SUP area extends upslope (to the north and west) to the peaks of these two mountains, including the ridge between these peaks as well as the Cody Bowl area to

the southwest of Rendezvous Mountain. The glacially sculpted Teton Range extends north to south and owes its existence to an active normal fault which bounds the range on the east and crosses through Teton Village.

Slopes on the SUP area range from virtually flat to nearly vertical. The steeper slopes are vulnerable to mass wasting processes such as landslides, avalanches and rock falls. Avalanches are the hazard of greatest concern in the JHMR SUP area. Avalanche danger is reduced primarily through the use of standard avalanche hazard reduction activities.

Soils at the base of Rendezvous Mountain, below 6,500 feet, are typically formed in colluvium. They have a depth to bedrock of approximately 5 feet. These soils have a loam or gravelly loam texture and are poorly drained in Fish Creek valley, but well drained on river terraces. Soils on the slopes of Rendezvous Mountain, above 6,500 feet, are typically formed in glacial till or bedrock; thus they are composed largely of rocks and are well drained. They have shallow profiles, with horizons that range from 0 to 16 inches (USDA-FS 1996a).

The Forest Service mapped two soil types within the proposed project area in 1984. Typic Cryochrepts are found in the higher elevations of the project area (beginning just below the upper terminals of both the Eagle's Rest and Teewinot Lifts), and Argic Cryoborolls are found in the lower portions of the project area (USDA-FS 1985).

3.4 Cultural Resources

A cultural resources inventory was conducted within the JHMR SUP area, which revealed the presence of one historical site and one prehistoric site. The first site consisted of a "small dense scatter of approximately 15 flattened and rusted hole-in-top cans" (Pool 1994). The second site "includes three obsidian flakes: a tertiary hard hammer flake, a secondary hard hammer flake, and a secondary hard hammer flake which may have been expediently used as a scraper" (Pool 1994). Neither of these sites is considered significant or eligible for inclusion on the National Register of Historic Places. Cultural resource clearance was recommended for the portion of the JHMR SUP area that was surveyed. The Cody Bowl area has not yet been surveyed (this area is outside of the project area). The survey (Pool 1994) concludes that due to the steep slopes within the project area, it is unlikely that significant cultural resources exist within the JHMR SUP/project area, given the resources available to historic and prehistoric peoples elsewhere in the Jackson area which are much more accessible than Rendezvous Mountain.

3.5 Federally Listed Threatened and Endangered Species

Since JHMR is located on land owned by and leased from the USFS, the USFS is the lead agency regarding issues involving threatened and endangered species. The Jackson Ranger District of the BTNF is responsible for any consultation necessary under the Endangered Species Act (ESA) of 1973, as amended.

3.5.1 Bald Eagle

The status of the bald eagle (Haliaeetus leucocephalus) under the ESA of 1973 was changed from endangered to threatened in the lower 48 states in 1995 (USDI-FWS 2000a). Bald eagles occur throughout the United States and Canada. Their more specific distribution within this vast range is influenced by the availability of nesting, perching and roosting sites and prey abundance (GYBEWG 1996). In the Jackson Hole area, bald eagles are generally found near lakes or large rivers with abundant fish. No bald eagle nests are known to exist in or near the project area. The Snake River, located approximately 1.5 miles to the east, is the closest suitable habitat for nesting territory (USDA-FS 2000a). Additionally, bald eagles generally avoid areas with significant human presence (Stalmaster and Newman 1978). Because of the lack of water features to provide nesting and foraging habitat, as well as the abundance of human activity, it is unlikely that bald eagles would frequent the project area.

3.5.2 Canada Lynx

Canada lynx (Lynx canadensis) occur throughout the boreal forests of North America, but little is known about lynx habitat use pattern in the lower 48 states. In the Rocky Mountain/Cascades Region, most lynx occurrences are in moist Douglas-fir (Pseudotsuga menziesii) and western, spruce/fir forests and in elevation ranges roughly from 4,900 to 6,500 feet above sea level (McKelvey et al. 2000). Lynx distribution follows closely that of the snowshoe hare (Lepus americanus), its primary prey (Koehler and Aubry 1994). Snowshoe hare density seems to be strongly correlated with habitats consisting of high stem density and shrub cover, and in many cases these criteria are met in early seral stage forests (Ruediger et al. 2000). However, the importance of mature coniferous forest for lynx is not to be de-emphasized. Lynx denning habitat is found in mature forests with high horizontal cover provided by coarse woody debris (Koehler 1990; Squires and Laurion 2000). In addition, older forests may provide habitat for hares at lower but more stable numbers while also providing habitat for alternate prey species like red squirrels (Tamiasciurus hudsonicus) (Ruggiero et al. 2000).

Lynx presence has been documented historically in western Wyoming from the Yellowstone area through the Wyoming and Wind River Mountain Ranges (Reeve et al. 1986, Ruediger et al. 2000), and it has been suspected that a resident population existed in southeastern Wyoming (Reeve et al.1986; USDI-FWS 2000). Lynx have been documented historically and in the mid 1980's and 1990's, in Teton and Lincoln counties (Fertig and Beauvais 1999). Several tracks and a bedding area that likely belonged to a lynx were observed in a small, forested patch within the BTNF near Teton Pass in 1994 (Dawson 2003). Lynx reproduction was recently documented in the Wyoming Range (Squires and Laurion 2000) south of JHMR. However, the male and female that were being studied died in 2002 and 2000, respectively. It is has been debated as to whether or not lynx currently exist in Wyoming (Reeve et al. 1986; Ruediger et al. 2000; USDI-FWS 2000b, Buskirk et al. 2000).

There are several identified factors that limit the potential for lynx presence in the JHMR. Much of the ski area has not been classified as potential lynx habitat due to the more open, steep slopes (Franklin 2000). Lynx have not been documented in the SUP area. The presence of snowshoe hare and red squirrel provides foraging opportunities for lynx in the SUP area. However, during a snowshoe hare survey that was conducted in 2002 by Pioneer Environmental Services, Inc., it

was determined that only small patches of habitat exist for snowshoe hare and red squirrel within JHMR. The relatively low abundance of the two prey species suggested that the forested habitats within JHMR were not suitable for supporting Canada lynx (Pioneer 2002). Other habitat requirements, such as extensive spruce/fir forests, are not readily met, making the SUP area unsuitable for resident lynx. Coarse woody debris is limited, which results in few opportunities for secure denning sites. The terrain is composed of small forest blocks providing little or no ideal secure diurnal habitat. In addition, forest openings are large, often greater than 300 feet wide. It has been suggested that lynx may avoid crossing openings greater than 300 feet wide under normal circumstances (Koehler 1990). Dispersing lynx could potentially pass through the ski area, but this is not likely. Considering the current level of human activity as well as the lack of suitable habitat, it is unlikely that Canada lynx would inhabit JHMR.

The Canada Lynx Conservation Assessment and Strategy (LCAS) (USDA-FS 1999) summarizes lynx ecology and current direction in lynx management on federal land. The LCAS provides federal agencies with conservation measures used in interdisciplinary planning of proposed activities to avoid negative effects to lynx. Project planning that implements the conservation measures is not expected to have adverse effects on lynx.

Lynx Analysis Units (LAU) have been delineated across the BTNF and provide the fundamental scale in which to evaluate and monitor effects of proposed actions on lynx habitat. Conservation measures generally apply only to lynx habitat on federal lands with LAU's. The JMHR is within LAU 1704010303, which corresponds to the 5th code hydrologic unit.

The LCAS includes conservation measures for recreation and ski areas. The following objectives were taken directly from the LCAS and summarize standards and guidelines recommended for lynx conservation with regard to developed recreation management. The No Action alternative would not alter landscape configuration or existing levels of human presence in any potential lynx habitat in the SUP area. Therefore, all objectives address only the Proposed Action alternative.

Standard 1) In lynx habitat, ensure that federal actions do not degrade or compromise landscape connectivity:
An important travel corridor for large carnivores has been identified along the Teton Front south of the ski area (Franklin 2000). Implementation of the Proposed Action will not further compromise landscape connectivity and thus will not impede lynx exploratory movements or dispersal.

Standard 2) Design trails, roads, and lift termini to direct winter use away from diurnal security habitat:
Diurnal security habitat is marginal or absent. As designed, none of the proposed trails, trail expansions, or construction will influence lynx diurnal security habitat.

Guideline 1) Identify and protect potential security habitats in and around proposed developments or expansions:
As stated above, diurnal secure areas are marginal or absent. None of the proposed trails, trail expansions, or construction will influence lynx diurnal security habitat.

Guideline 2) When designing ski area expansions, provide adequately sized coniferous inter-trail islands, including the retention of coarse woody material, to maintain snowshoe hare habitat:
The Proposed Action would only implement improvements to an existing ski area, including widening or relocating existing trails. No ski area expansion is being proposed. However, coarse woody debris will be retained in areas of tree removal to maintain snowshoe hare habitat.

Guideline 3) Evaluate, and adjust as necessary, ski operations in expanded or newly developed areas to provide nocturnal foraging opportunities for lynx in a manner consistent with operational needs, especially in landscapes where lynx habitat occurs as narrow bands of coniferous forest across the mountain slopes:
As stated above, the Proposed Action would only implement improvements to an existing ski area, including widening or relocating existing trails. No ski area expansion or newly developed areas are being proposed.

Standards and guidelines with regard to timber management do not apply. However, some tree removal would be implemented in the Proposed Action alternative, and potential lynx habitat may be affected. Some snowshoe hare and red squirrel habitat will be affected by the removal of less than 2 acres of coniferous/aspen and coniferous forest, which includes less than one acre of forested wetlands. In addition, widening and relocation of trails will increase the area of compacted snow. It has been suggested that snow-compacted trails may increase interference competition with lynx by other predators such as coyote (Canis latrans) and bobcat (Lynx rufus) (Buskirk et al. 2000).

In response to close encounters with humans, lynx appear to be tolerant (Mowat et al. 2000), and during the winter ski season, lynx may not be affected by activities on the mountain. A study of lynx behavior in association with ski areas in the southern Canadian Rocky Mountains did not indicate lynx to be sensitive to the presence of humans (Roe et al. 1999). There is no evidence that lynx populations are threatened by interfacing with humans as long as they are not killed intentionally or unintentionally.

3.5.3 Gray Wolf

Wolves (Canis lupus) became nearly extinct in the lower 48 states in the early part of the 20th century and were listed in 1967 as Endangered under the first federal endangered species law (USDI-FWS 1998). In 1995 and 1996, an experimental population of Canadian gray wolves was released in Yellowstone National Park and NFS lands in central Idaho. The wolf reintroduction program was very successful; an estimated 118 wolves now live in the Yellowstone area and at least 141 wolves reside in central Idaho. These introduced wolves are designated as non-essential, experimental under the ESA of 1973 (USDI-FWS 1998; USDI-FWS 2001).

Gray wolves inhabit a variety of forested and grassland habitats and feed exclusively on meat. Elk, moose, deer, bison, bighorn sheep, beaver, snowshoe hare, small mammals, and domesticated animals serve as prey for wolves. Habitat quality is determined more by prey density than vegetative characteristics, thus wolves are often associated with large ungulate populations (Mech 1995).

The wolf packs closest to the project area are the Teton, Gros Ventre, and Green River packs from the experimental Yellowstone population (USDI-FWS et al. 2002). The boundary of the home ranges of these packs extends south of Jackson, Wyoming, but not as far west as JHMR. The home ranges of these packs overlap the National Elk Refuge near Jackson since the refuge provides an abundant food source. Although it is difficult to predict the movements of wolves, it is possible that the species could move into or through the project area even though the main food sources are located to the east. There are reports that wolves have moved as far south as the Utah border (Clark 2000).

3.5.4 Grizzly Bear

The present range of grizzly bears (Ursus arctos horribilus) is drastically reduced from its historic range. Because of factors such as unregulated hunting, trapping, livestock depredation control and habitat loss, their numbers from 1800 to 1975 have declined from an estimated 50,000 to less than 1,000 (USDI-FWS 1993). In 1975, grizzly bears received the status of threatened under the ESA.

In the lower 48 states, grizzly bears are found in Washington, Idaho, Montana and Wyoming. In Wyoming, grizzly bears utilize a variety of habitats within the mountainous terrain in and surrounding Yellowstone National Park. Utilized habitat includes diverse forested communities interspersed with meadows and grasslands. Grizzly bears require forested habitat for thermal, resting, and security cover (USDI-FWS 1993).

The JHMR is not within or near the primary conservation area for grizzly bear and the occurrence of grizzlies in the SUP area has not been documented. However, grizzly bears have been sighted as far south as Deadman Mountain and a grizzly bear was killed north of Teton village. The resort does contain some grizzly bear habitat in the forested communities, subalpine/alpine tundra, and wetland/willow/mixed-brush communities. Given their very large home ranges, it is possible that a grizzly bear could move through the area. Conversely, grizzlies might be more likely to disperse along river corridors, which provide more resources and security, such as the Snake River where they have been previously sighted. Lands to the north and west of the project area provide suitable grizzly bear habitat with much less human presence.

3.5.5 Whooping Crane

A population of whooping cranes (Grus americanus) migrates through western Wyoming. Whooping cranes use open, shallow areas of rivers, lakes, marshes and other water bodies for roosting habitat. Feeding sites consist of the same types of habitat as roosting sites, with the addition of wet meadows, grain fields, and some upland habitat. Visual and physical isolation from humans and development is usually sought for migrating stopover locations (USDA-FS 1996a). Whooping cranes are known to have occurred in the Jackson Hole area historically, although not regularly in the immediate vicinity of the project area (USDA-FS 1996a). In addition, little or no suitable habitat for whooping cranes exists within the project area.

4.0 DISCHARGE OF DREDGE AND FILL MATERIALS

The Jackson Hole Mountain Resort has made a concerted effort to retain all possible natural characteristics while simultaneously providing the structures and services needed to accommodate reasonable goals of growth and service. Because of the location of existing structures and trails, some impacts to wetlands would occur (Figure 4). Lift and base area improvements, the extension of a half-pipe, and trail construction and expansion would result in the discharge of dredged and fill material into jurisdictional wetlands. Fill material would originate on-site whenever possible. A summary of efforts to avoid and minimize impacts to wetlands through planning and project modification is provided in Section 4.2- Avoidance and Minimization.

4.1 IMPACT SITES

Wetland impacts would result from several aspects of the proposed project. The current engineering plans were designed to avoid impacts where possible, and minimize impacts either by planning for them to be temporary or by choosing a site that would impact the smallest amount of wetlands possible while still achieving the project's goal. Table 2 summarizes individual and total impacts to wetlands.

Table 2. Total Jurisdictional Wetland Impacts for the Jackson Hole Mountain Resort.

Map Symbol	Nature of Impact	Wetland Classification Type	Square Feet Impacted	Acres Impacted	Cubic Yards of Fill	Figure ID
Impacts Related to Lift and Base Area Improvements						
L1	Eagle's Rest Lift grading at base area	Herbaceous	11,801	0.271	0	4a
L1	Eagle's Rest Lift grading at base area	Forested	1,885	0.043	0	4a
L2	Eagle's Rest Lift grading at upper terminal	Forested	5,461	0.125	405	4b
L3	Culvert placement in wetlands for reroute to Solitude Creek	Herbaceous	484	0.011	0	4c
L4	Solitude Creek relocation	Forested	1,157	0.027	0	4d
L5	Culvert placement in wetlands for reroute to Solitude Creek	Herbaceous	1,002	0.023	0	4e
L5	Culvert placement in wetlands for reroute to Solitude Creek	Forested	178	0.004	0	4e
Impacts Related to the Half-Pipe Extension						

L6	Fill for east berm	Scrub/shrub	2,969	0.068	220	4f
Impacts Related to the Eagle's Rest Cut-Off Trail						
L7	Culvert placement	Herbaceous	30	0.0007	3	4g
L7	Culvert placement	Forested	36	0.0008	3	4g
L8	Culvert placement	Herbaceous	23	0.0005	2	4h
L8	Culvert placement	Forested	136	0.003	10	4h
L9	Culvert placement	Forested	169	0.004	13	4i
Impacts Related to the Solitude Creek Diversion						
L10	Open diversion channel	Herbaceous	1,010	0.023	0	4j
L10	Open diversion channel	Forested	35	0.0008	0	4j
Impacts Related to Lower Werner Trail						
L11	Grading	Herbaceous	2,226	0.051	165	4k
TOTAL FORESTED			9,057	0.208	431	
TOTAL HERBACEOUS			16,576	0.380	170	
TOTAL SCRUB/SHRUB			2,969	0.068	220	
GRAND TOTAL			**28,602**	**0.656**	**821**	

4.2 AVOIDANCE AND MINIMIZATION

Impacts to wetlands have been avoided or minimized to the fullest extent possible within the limits of the SUP boundary, given the need to implement the proposed actions in order to meet recreational demands and increase the safety and quality of services as approved by the USFS. The primary planning objective was to implement these actions with the least amount of overall impacts to the natural environment.

Impacts to wetlands would occur primarily because alternatives would require greater impacts to other features of the natural environment. Methods to implement temporary, rather than permanent, impacts have been utilized wherever possible. In areas proposed for grading, hydric soils would be stockpiled and replaced to restore the impacted wetland where possible, or used for mitigation measures. All non-wetland areas of disturbance would be treated with three to four inches of topsoil, seeded, and covered with mulch to reduce erosion and sedimentation into wetlands and waters of the U.S. Netting would be used to stabilize disturbed areas and reduce sediment run-off on steeper slopes.

4.2.1 Lift and Base Area Improvement

4.2.1.1 Eagle's Rest Lift

The lower terminal of the new Eagle's Rest Lift and control building would not directly impact wetlands. However, required grading for both its placement and the reduction of slopes at the base area would impact a forested and herbaceous wetland (C/W21). Impacts to this area would result from the removal of material as elevations would cumulatively be lowered. Therefore, these impacts are expected to be temporary, since this wetland would be restored. The grading plan would actually allow for the creation of wetlands in this area, in addition to the full

restoration of the graded areas, thereby increasing the surface area of wetlands at the base of the resort.

The proposed placement of the upper terminal for the new Eagle's Rest Lift would impact a channeled forested wetland (C/W23). While placing the upper terminal in an existing trail could minimize immediate impacts to wetlands and forested areas, additional impacts would be required to compensate for lost beginner and novice terrain that is currently lacking. This approved location is ideal for guest circulation to this and other planned lifts, as well as access to Solitude Cabin, the proposed location for the Ski and Snowboard School. Considering the multiple purposes this lift would serve and the reduction in future impacts that might otherwise be necessary if the expanded Eagle's Rest Lift were placed elsewhere, JHMR believes this to be the location with the least overall impact to wetlands.

In order to provide the proper slope for unloading and accessing the adjacent amenities, fill material would be placed in the proposed upper terminal area. Although fill would be placed over Wetland C/W23, impacts would be minimized by installing a culvert in this channeled wetland to avoid affecting the hydrology of wetland areas below this location.

4.2.1.2 Teewinot Lift

Raising the base elevation of the lower terminal of the Teewinot Lift nine feet would reduce substantial amounts of grading and tree removal that would otherwise be necessary in wetland C/W21 to create acceptable slopes for movement between lifts and facilities. This is because lifts require an initial slope of 25% until the bottom of the lift is thirteen feet above the ground. This provides clearance before the slope can be reduced to prevent excessive strain on the equipment. If the lower terminal was moved upslope, but not raised, more forest and wetland habitat would have to be cleared and graded to meet slope requirements at the bottom of the lift. By raising the elevation at the base of the lift, the relocation of the lower terminal would not impact wetlands, although a non-delineated channel would be placed in a culvert to flow behind the terminal foundation.

4.2.1.3 Antelope Flats Trail

The widening and expansion of the Antelope Flats Trail would not impact wetlands.

4.2.1.4 Complimentary Action Needed for Implementation of the Proposed Project

The realignment of the lower portion of Solitude Creek and its culvert system would impact wetlands. A net increase of 213 linear feet of culvert would occur as a result of this realignment. The only wetland habitat that would be impacted by the movement of the existing channel is the portion of C/W20 that is adjacent to the open channel. These portions of the creek would have culverts installed and then filled so that they still may collect run-off. This would keep the area below these impacts functioning as a wetland. The channel constructed to replace this portion of Solitude Creek would be designed to maximize the area of adjacent wetland habitat. Also, by routing the exposed portions of the creek through non-trail areas, it would be used to enlarge and enhance the hydrology of existing wetlands. Placement of the new culvert system would necessitate that a portion of C/W20 be dredged and filled with a culvert, and subsequently

refilled with the dredged hydric soil. This would be done in a manner to allow for the complete restoration of the disturbed area of C/W20.

4.2.2 Half-pipe Extension

Under the proposal, fill would be placed in Wetland C/W26 in order to extend the east berm of the half-pipe downslope. The USACOE determined this wetland to be non-jurisdictional in a preliminary jurisdictional determination (Johnson 2003). This determination is subject to change, however, once a USACOE site visit is performed.

Because of the existing infrastructure, the extension of the existing half-pipe is believed to be the best possible means of obtaining an FIS-certified half-pipe. Extending the east berm 70 feet downslope would impact C/W26. Only two other options exist for obtaining a half-pipe with the necessary length for certification. The first option would be to extend the half-pipe upslope. This option is unlikely because of the amount of grading and disturbance that would be needed to meet slope requirements. The second option is complete relocation. However, this option has not been approved by the Forest Service. This would require new NEPA work and extensive forest clearing or the blockage of a trail system. Since guest circulation is of paramount importance to safety, new trails would have to be cleared to make up for this loss. Therefore, the proposed downslope extension should have the least overall environmental impacts, and the least practicable impacts to wetlands. This proposed option would also reduce erosion by minimizing the total area of ground disturbance. Construction of the east berm would commence by first placing large cobblestones and then a material separation fabric over the area of C/W26 to be covered by the berm. The fill material used to construct the berm would then be placed over the material separation fabric. This process is designed to minimize impacts to the surface hydrology in this area.

4.2.3 New Beginner/Novice Run/Trail (Eagle's Rest Cut-Off)

The construction of this trail would impact Wetland C/W 24 by placing two culverts where the trail would cross this narrow channeled wetland.

To compliment the improved lift system, this trail is planned to accommodate the expected increase in usage of the terrain in this area. This trail would cross over a channeled forested wetland (C/W24) in two different places. Placing 40-foot culverts in the channels to allow equipment to safely "bridge" across them would minimize wetland impacts associated with the construction of this trail. This is an ideal location for beginner and novice terrain because this area has the proper grade and is accessed by and adjacent to other beginner and novice terrain.

The culvert for the upslope crossing of wetland C/W24 is needed to widen the main trail. This trail needs to be constructed to accommodate the expected increase in usage on this part of the mountain, and to form the beginning of the gradual turn from the main trail onto the existing Eagle's Rest Cut-Off Trail. A culvert for the downslope crossing of wetland C/W24 is also needed to benefit safety and circulation. It is important to maintain a low merging angle so that skiers and snowboarders are not "thrust" into the middle of the trail with which they are merging.

5.0 MITIGATION PLAN

The mitigation plan for this project consists of avoidance and minimization of impacts to waters of the U.S., including wetlands, the creation of new wetlands, and the restoration and enhancement of existing wetlands. Impacts to wetlands were avoided and minimized to the fullest extent practicable given the need for the proposed improvements at JHMR. Based upon the preliminary jurisdictional determination (Johnson 2003) and the most recent engineering designs, impacts to wetlands would total 0.656 acres (Table 2).

5.1 GOALS OF MITIGATION

Mitigation for wetland impacts is proposed to occur "on-site" and "in-kind." The immediate goal of the wetland mitigation plan would be to replace wetlands impacted as a result of implementation of the proposed actions with wetlands of similar size, value, and function on-site. This would be done with the long-term mitigation goal of having these wetlands possess functions and values equivalent to, or better than, those impacted. All hydric soils dredged would be stockpiled and used to refill, create, or enlarge existing wetlands.

5.1.1 Avoidance and Minimization

Avoidance and minimization would continue as a mitigation measure during construction and operation of the project. Specifically, during actual construction, if an element or feature of the project can be built with even less impact to wetlands than previously estimated, such action would be taken.

5.2 PROPOSED MITIGATION

The USACOE will make the final determination as to the amount and type of mitigation that would be required as a result of implementation of the proposed project. However, to assist the USACOE in making this determination, JHMR has identified several opportunities for mitigation. These potential mitigation sites are described in Table 3 and shown in Figures 4L, 4m, and 4n.

Table 3. Proposed Mitigation Sites at JHMR.

Map Symbol	Wetland type proposed for mitigation	Square Feet	Acres	Figure
M1	Forested	9,135	0.21	4L
M2	Herbaceous	17,850	0.41	4m
M3	Scrub/shrub	3,530	0.08	4n
Total		**30,515**	**0.70**	

5.2.1 Solitude Creek Diversion

Prior to the installation of the Teewinot Lift in 1994, a headgate and diversion channel carried flows from Solitude Creek into Crystal Springs Creek. From here, via a culvert, the flow could then be transported to Crystal Springs Pond at the base of the resort, or continue downstream.

JHMR proposes to reinstall the headgate and diversion channel as part of its mitigation plan. The reinstallation of the headgate and diversion channel would be used to supplement flows into Crystal Springs Pond. In recent drought years, flows have been too low to provide the pond with sufficient volumes to prevent stagnation. The extra volume of water would improve water circulation and health within the pond.

The headgate and diversion channel would be designed to create stream habitat, improve pond habitat, and preserve the hydrology and wetlands within the Solitude Creek drainage downstream of the headgate. The design of the headgate would allow up to 35% of Solitude Creek's flow to be diverted, although diversion would typically call for less than 35% of the flow. Flows would not be diverted in an amount to exceed those needed to maintain the healthy circulation of Crystal Springs Pond. Flows would be maintained at a volume and duration sufficient to support healthy and functional wetland and riparian habitat in and along the diversion channel. The channel would not transport flows in the winter. Since outflow from Crystal Springs Pond flows back into Solitude Creek and Fish Creek, there would be no significant effects on downstream discharge.

5.2.2 Enlarge/Enhance C/W21

Jurisdictional wetlands impacted as a result of grading activities are proposed to be mitigated by restoring and enlarging wetland C/W21. Because wetland hydrology is known to exist here, proper grading is expected to not only allow for restoration, but also permit the enhancement and enlargement of the wetland. Hydric soils would be stockpiled prior to dredging and replaced in the same location once the grading is completed.

Additionally, the realignment of the channel and culvert system of Solitude Creek would be designed to better contribute to wetland hydrology, and increase the total size of this wetland (C/W21). Because 0.06 acres of forested wetland habitat would be cleared and dredged in this location, JHMR proposes to create additional forested wetland habitat around wetland C/W21.

All revegetated wetland mitigation sites would be exclusively planted with species native to Teton County and the BTNF area. The plant species used for revegetation would be based upon their availability in seed or seedling form, their ability to root easily from cuttings, and their habitat and forage values to wildlife. Whenever possible, plant species would be removed from wetlands prior to fill activities, and used as plugs in the newly created wetlands.

The area is characterized by quaking aspen (Populus tremuloides), speckled alder (Alnus incana), red-osier dogwood (Cornus stolonifera), hairy willow herb (Epilobium ciliatum), monkey flower (Mimulus guttatus), douglas fir (Pseudotsuga menziesii), leafy-bracted aster (Aster foliaceus), monkshood (Aconitum columbianum), mountain woodfern (Dryopteris dilatata), blue-joint reedgrass (Calamagrostis canadensis), tall manna grass (Glyceria elata), sedges (Carex spp.),

rushes (Juncus spp.), service-berry (Amelanchier alnifolia), stinging nettle (Urtica dioica), false hellebore (Veratrum californicum), and, occasionally, broad-leaf cattail (Typha latifolia).

5.3 PROPOSED MONITORING

Wetland mitigation sites would be monitored according USACOE specifications. The USACOE would be furnished with annual monitoring reports for a period of three years, or until monitoring data demonstrates that the success standard has been achieved for all approved mitigation. The USACOE would also be notified when construction and revegetation of the wetland mitigation sites is completed. The annual report would serve as the mechanism for documenting whether success standards have or have not been achieved. Approval would be obtained from the USACOE on how to best address situations that deviate from the proposed monitoring plan or wetland creation scheme.

Approval to discontinue monitoring activities would be assumed through approval of the results presented in the annual reports or from written documentation, which amends the information contained in this permit application.

5.3.1 Photo monitoring

Photographic monitoring points would be established for each mitigation site. Photographs would be taken annually at each site to monitor the overall vegetative change taking place through the growing seasons. This information would be collected throughout the monitoring period and would be included in the annual monitoring reports submitted to the USACOE.

5.3.2 Vegetation Monitoring

The presence of hydrophytic vegetation would be used to determine success at wetland creation sites. According to the 1987 Wetland Delineation Manual specifications, an area has hydrophytic vegetation when more than 50 percent of the dominant species composition from all strata is obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species (Environmental Laboratory 1987). The species list for revegetation of mitigation sites emphasizes these categories. The revegetation effort would attempt to use only native species representative of Western Wyoming. Native species would comprise at least 90 percent of the total vegetation cover at all revegetation sites.

5.3.3 Soil Monitoring

All wetland mitigation sites would be soil sampled to determine whether the hydric soil development has been successfully initiated. Standards for soil success criteria shall conform to the 1987 Wetland Delineation Manual (Environmental Laboratory 1987) and the list of Hydric Soils of the United States (USDA-SCS 1991), or subsequent amendments. Hydric soils result from the influence of periodic or permanent inundation or soil saturation for sufficient duration to effect anaerobic conditions. Prolonged anaerobic soil conditions lead to a reducing environment, thereby lowering the soil redox potential. This results in chemical reduction of some soil components (iron and manganese oxides), which leads to development of soil colors

and other physical characteristics that usually are indicative of hydric soils (USDA-SCS 1991). A wetland mitigation site would be considered to have developed a hydric soil when any one of these criteria has been satisfied. Since the mitigation sites may be dominated by either silty or sandy soils, the hydrophytic characteristics of each would be quite different. Low chroma would be characteristic of the silty soils, while iron staining and mottles would be more characteristic of the sandy soils.

5.3.4 Hydrologic Regime

Hydrologic criteria described in the 1987 Wetland Delineation Manual (Environmental Laboratory 1987) would be applied to the wetland mitigation sites. To be considered successful as new wetlands, wetland hydrology must reflect the characteristics of having a high water table during a significant part of the growing season.

5.4 Criteria for Success

All wetland mitigation activities must contain some quantifiable index by which the success of wetland mitigation efforts and commitments can be evaluated by the USACOE and the applicant. A qualified individual would monitor mitigation sites throughout the growing season to ensure that the efforts progress toward the defined targets.

To meet the USACOE jurisdictional wetland criteria, an area must have hydrophytic vegetation, hydric soils, and wetland hydrology (Environmental Laboratory 1987). Demonstration of any two criteria would be sufficient to determine successful wetland creation. In most cases, hydric soil development takes decades. Consequently, the hydric soil criteria may not be met at creation sites, especially where hydric soils were not available to plate the newly created wetland. Hydrology and vegetation criteria, however, would likely be met in all areas within the first three years following creation.

5.5 Erosion and Sedimentation Control Guidelines

Erosion control measures are described in an Erosion Control Plan and are designed to ensure that all sources of soil erosion and sediment on the construction site are adequately controlled. Erosion control emphasis is placed on preventing sediment from entering watercourses and wetlands. This would be accomplished using five basic erosion control strategies discussed below.

5.5.1 Minimize the area of disturbance and the duration of exposure

Reduce areas of disturbed soil to a minimum by limiting disturbed soil exposure to where it is absolutely necessary. Reduce the time that soil is left disturbed by careful construction management and phasing. Stabilize soils with seeding and mulch or mats as soon as possible.

5.5.2 Control water at up-slope site perimeters

Prevent storm water from entering areas of disturbed soil from outside and within the construction site. Diversion dikes and buffer strips of vegetation are measures that can be used to reduce the amount of water entering individual construction sites.

5.5.3 Control water on-site

On the disturbed sites themselves, water must be controlled, channeled, and kept to low velocities so that erosion is minimal. Immediate seeding and mulching, or the application of sod, are the most effective means of controlling water on-site. Useful structural control measures include interceptors, slope drains, surface roughening, hay bale dikes, silt fences, sediment logs, and check dams.

5.5.4 Control sediment on-site

Reduce the amount of sediment produced from areas of disturbed soils and control the sediment that is unavoidably produced on-site. Immediate seeding and mulching, or the application of sod, are the most effective means of controlling sediment on-site. Structural control measures include sediment traps and basins, surface roughening, hay bale dikes, check dams, sediment logs, and silt fences.

5.5.5 Control sediment on down-slope site perimeters

Prevent the off-site transport of all sediment produced on the construction sites. Effective control measures include buffer strips of vegetation, perimeter dikes and swales, sediment traps and basins, stabilized construction entrances, and silt fences. To avoid indirect filling of wetlands, all bare soil slopes would be revegetated. Only species native to the area should be used. Steep bare soil slopes would be stabilized with erosion control blankets until the revegetation is successful. Specifications of blanket applications are described in Table 4.

Table 4. Sediment control blanket applications.

Method	Description
Straw Mats	Straw mats would be used to stabilize slopes with grades from 3:1 to 2:1, and for moderate discharge swales. The mats consist of a straw fiber matrix sewn between two photodegradable nets.
Straw-Coconut Mats	For slopes with grades between 2:1 and 1:1, straw-coconut mats would be used to stabilize the soil surface during revegetation. These mats consist of a straw matrix supplemented with coconut fiber sewn between a bottom layer of lightweight netting and a top layer of heavyweight UV stabilized netting. This matting lasts for more than one growing season, but would biodegrade in place over time. Generally, however, straw would be spread over the bare slopes and the straw would be covered with a netting to prevent removal by wind or water.
Straw Bales	Straw bales would be used around construction activities to catch and filter concentrated overland flows that may contain sediment. These bales would be pinned and keyed into place to ensure that they do not allow sediment-loaded water to escape without being filtered by the straw. Straw bales would protect watercourses from increased sediment loads. They may be removed once surrounding vegetation is well established and the threat of sediment reaching stream courses is past.

Table 4. Sediment control blanket applications.	
Method	**Description**
Silt Fencing	Silt fencing would be placed along wetland margins down slope from and adjacent to project-related disturbances. Fencing would remain in place until the disturbance area has been successfully revegetated.

6.0 PROPERTY OWNERSHIP

6.1 PROPERTY OWNER

USDA-Forest Service
Bridger-Teton National Forest
PO Box 1888
340 N. Cache
Jackson, WY 83001

Special Use Permit Area is leased by:

Jackson Hole Mountain Resort
PO Box 290
Teton Village, WY 83025

6.2 ADJACENT PROPERTY OWNERS

Table 5 outlines the Federal Agencies that are adjacent property owners, and Table 6 outlines private ownership of adjacent properties.

Table 5. Adjacent Property Owners – Federal Agencies.	
USDA-Forest Service Bridger-Teton National Forest PO Box 1888 340 N. Cache Jackson, WY 83001	USDI – National Park Service Grand Teton National Park PO Drawer 170 Moose, WY 83012-0170

Table 6 was omitted from this document prior to distribution due to privacy considerations.

7.0 COMPLETED ACTIVITIES, APPROVALS, AND DENIALS

Table 7 presents a list of potential permits that may be required by federal, state, and local government agencies for approval in order to complete JHMR's proposed project, as well as their completion status.

Table 6. Permits Obtained or Under Consideration for JHMR SUP Area Projects.

Permit	Issuing Agency	Status
Federal		
Individual 404 Permit	US Army Corps of Engineers	Application Submitted
Special Use Permit (For Resort Operation on USFS Land)	US Forest Service	Obtained
State of Wyoming		
Groundwater Pollution Control Permit	Departmant of Environmental Quality	Obtained
Water Impoundment- for headgate/diversion	Wyoming State Engineering Department	Application pending
Storm Water Permit WYR100709 WyDEQ	Wyoming DEQ	Renewed

8.0 NOTIFICATION

The USACOE would be notified when all construction impacts and wetland mitigation measures are completed. JHMR, or their agent, will also provide any required monitoring reports to the USACOE at a frequency and for a period of time determined to be appropriate by the USACOE. Monitoring activities would be discontinued only after JHMR receives written notification from the USACOE that monitoring is no longer required, once mitigation is determined to be successful.

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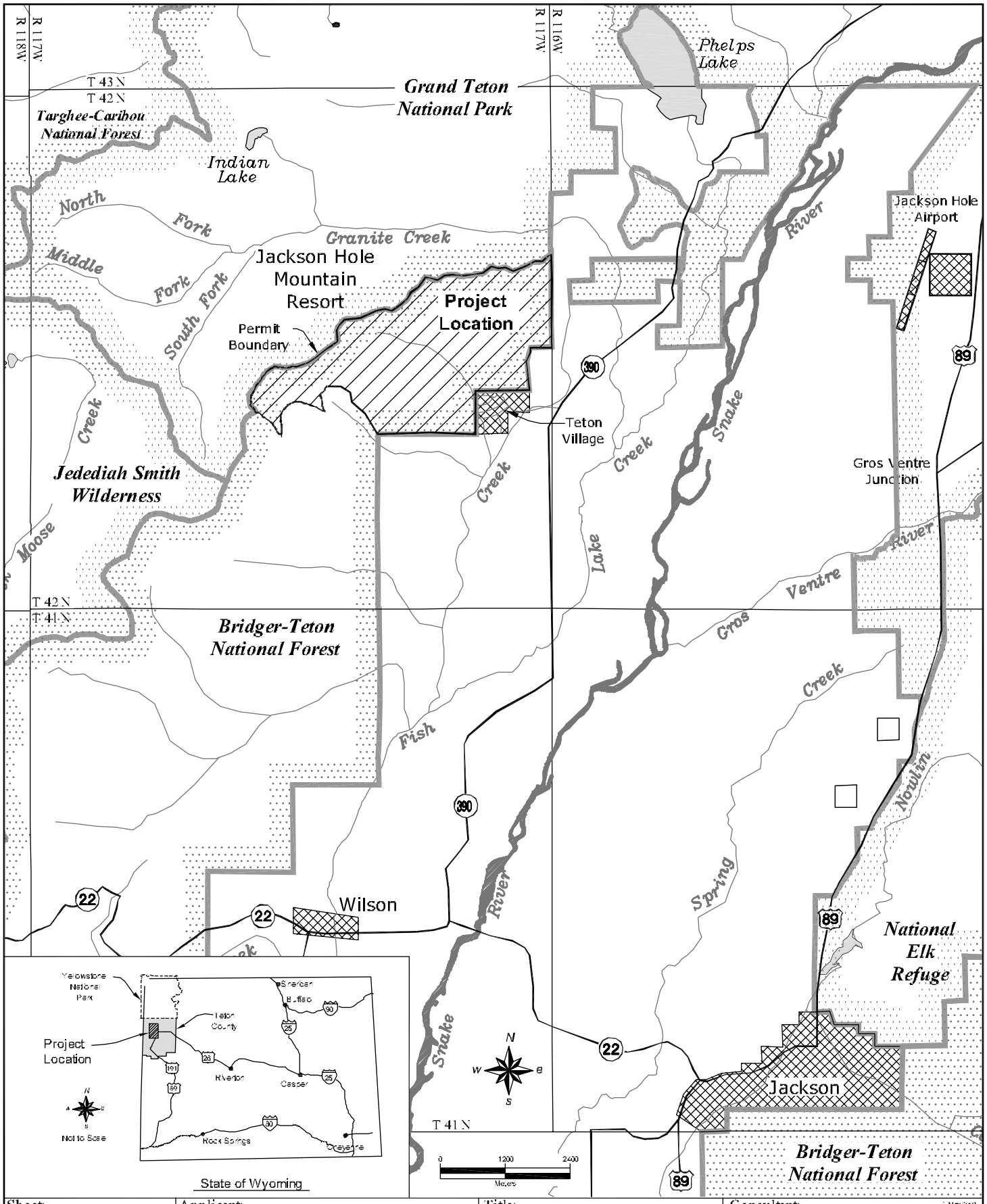
10.0 LIST OF FIGURES



Sheet:	Applicant:	Title:	Consultant:
Figure 1	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	General Project Location	404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C.

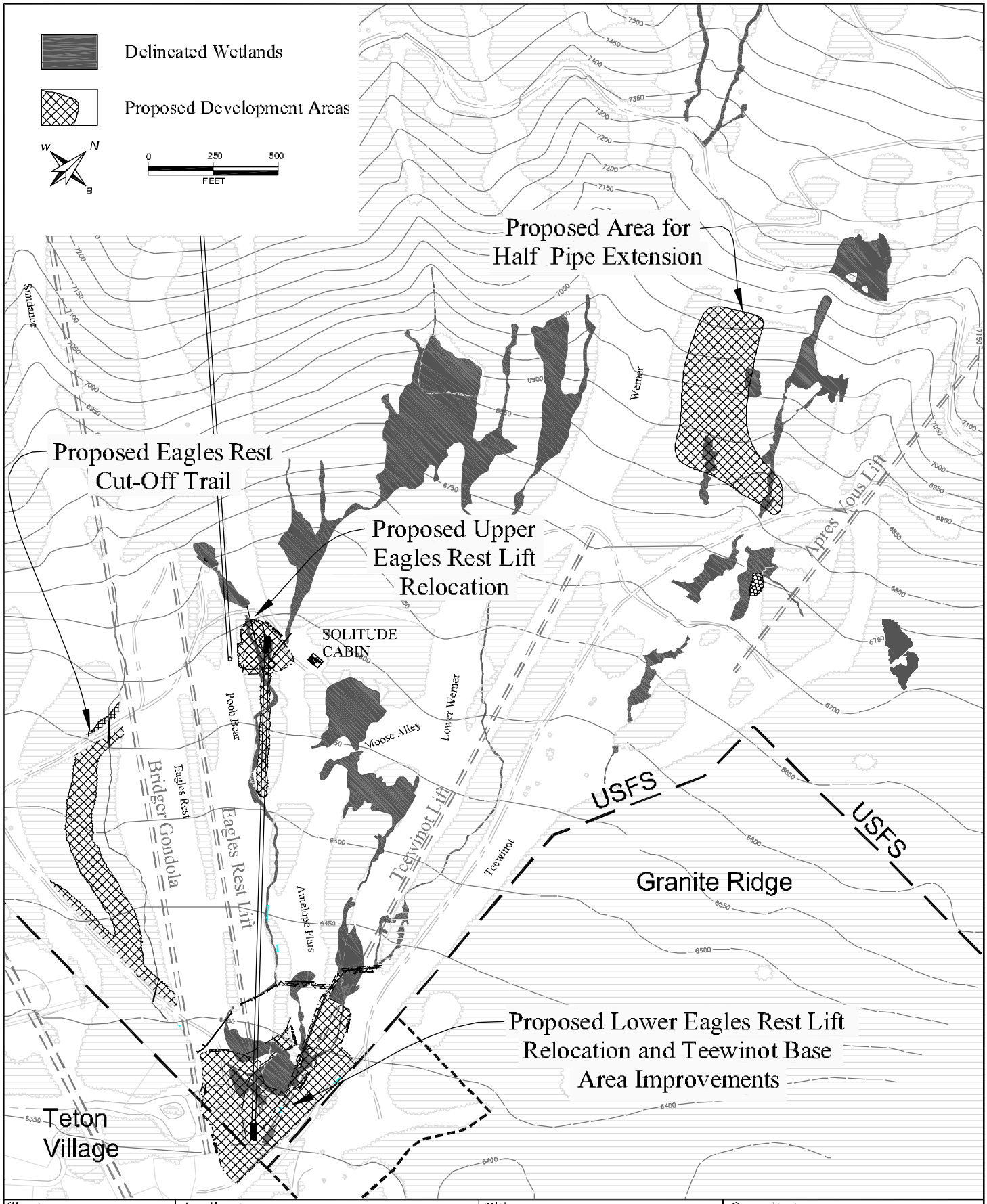


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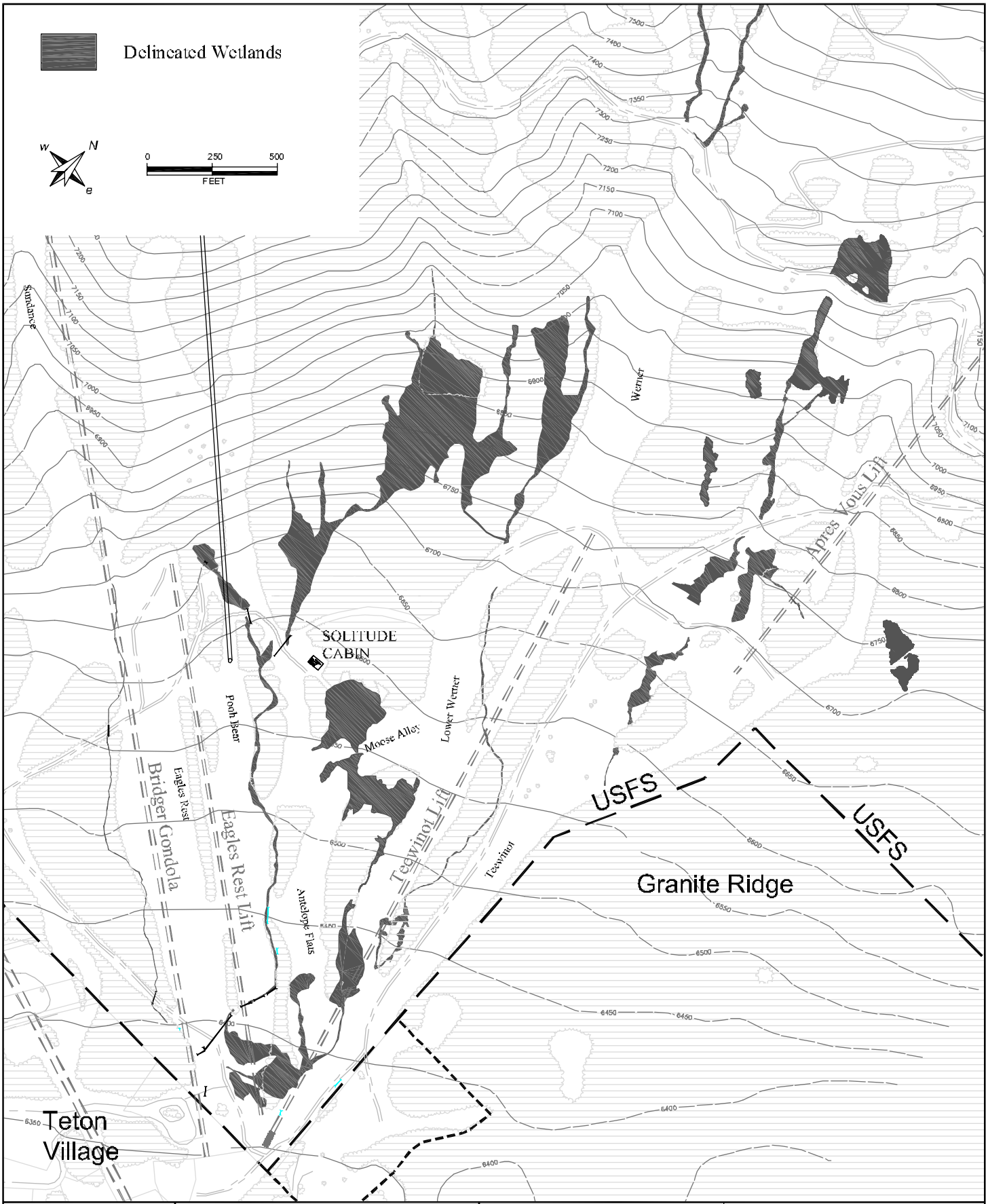
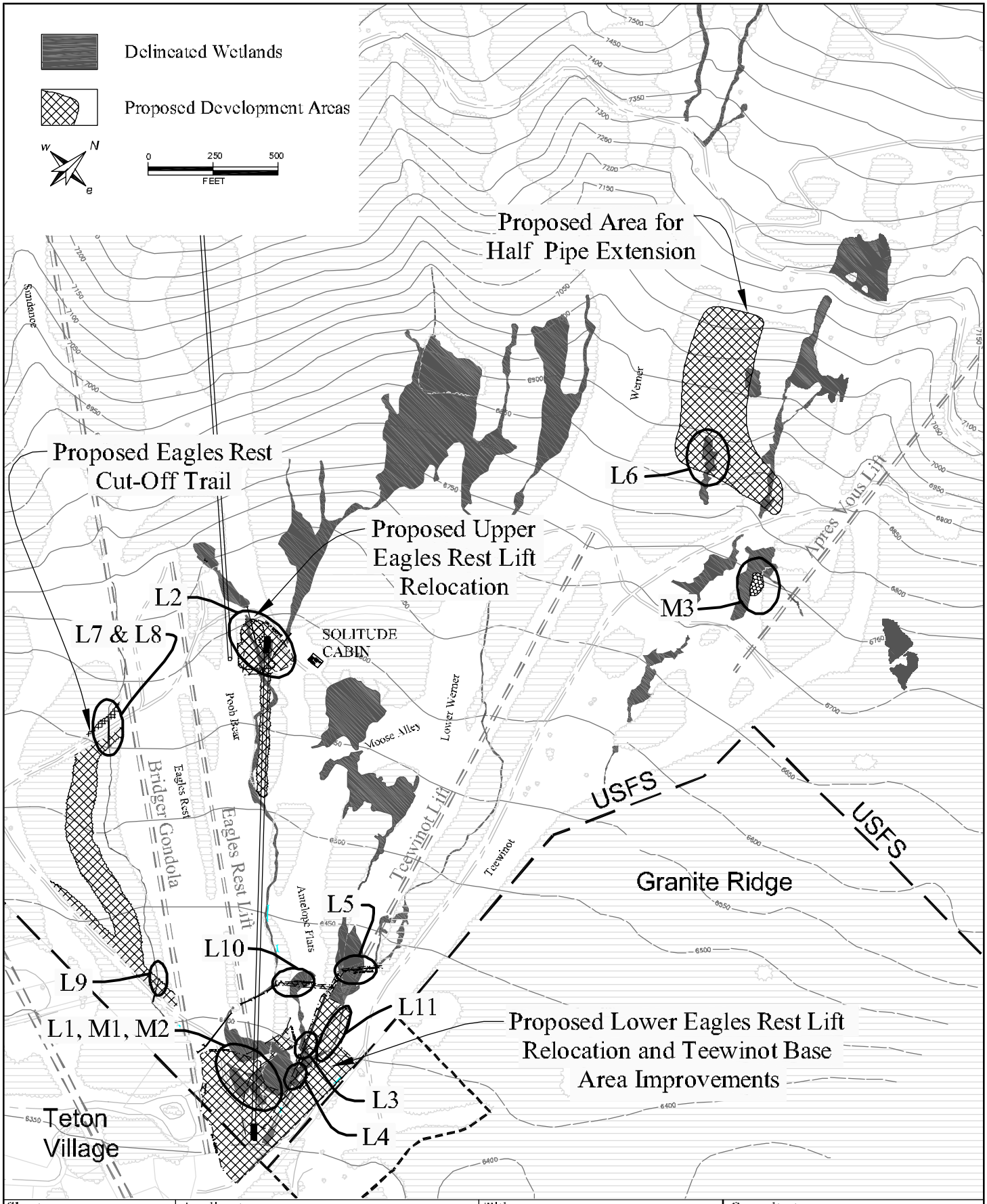
Figure 2	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Proposed Development at Jackson Hole Mountain Resort	404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

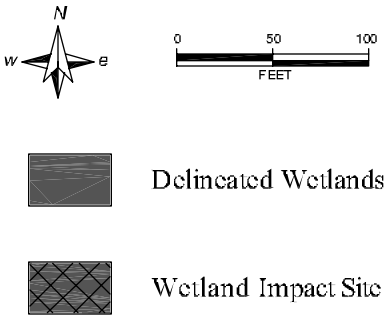


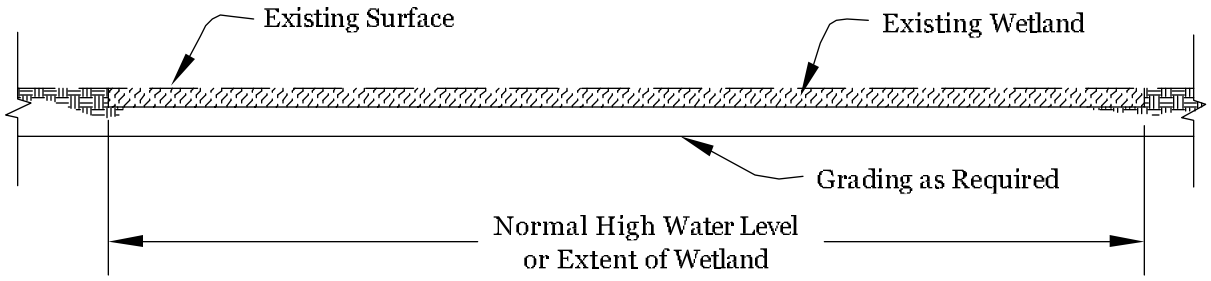
Sheet:	Applicant:	Title:	Consultant:
Figure 3	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Delineated Wetlands near the Proposed Development Areas	May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering



Sheet:	Applicant:	Title:	Consultant:
Figure 4	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Total Wetland Impacts within the Proposed Project Areas	404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:	L1
Impacted Wetland Type:	Herbaceous
Square Feet Impacted:	11,801
Acres Impacted:	0.271
Impacted Wetland Type:	Forested
Square Feet Impacted:	1,885
Acres Impacted:	0.043
Location:	Eagles Rest & Teewinot Lift Base Area





Profile

1" = 20'

Sheet:	Applicant:	Title:	Consultant:
Figure 4a	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L1	1 May 2008 404 Permit Mapping by: Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L2

Impacted Wetland Type:

Forested

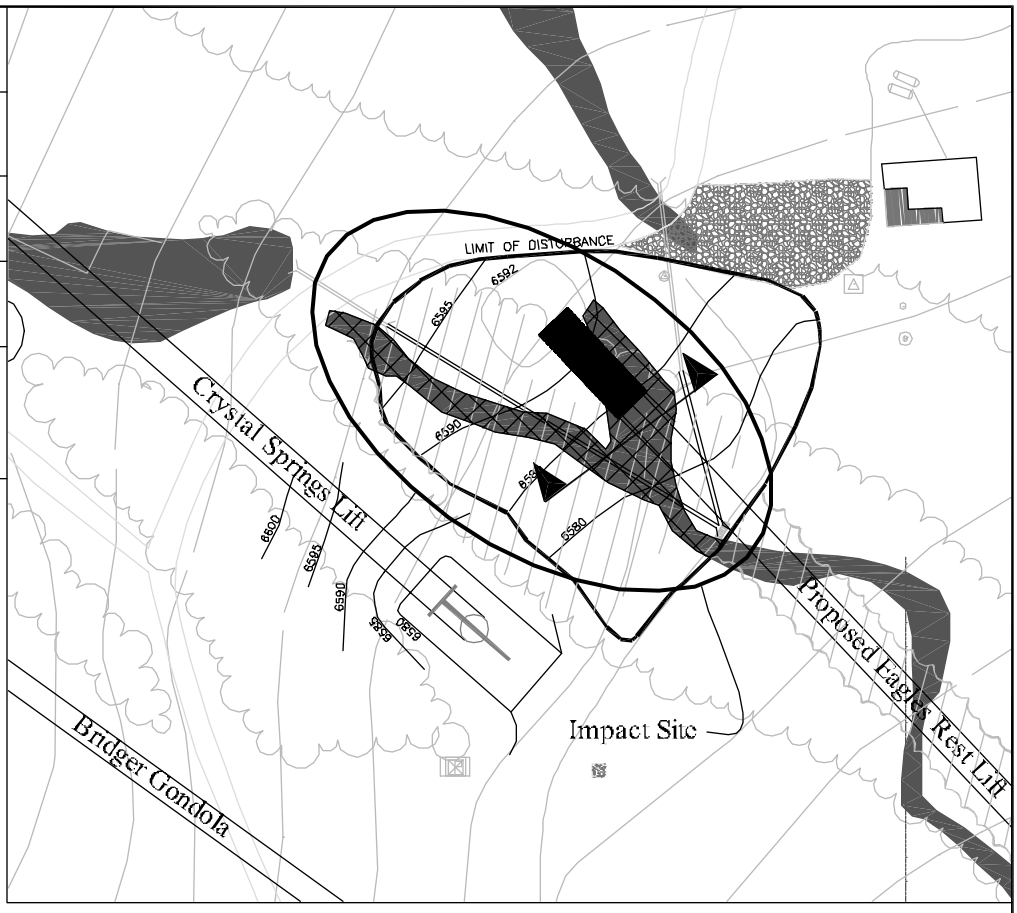
Square Feet Impacted:	Acres Impacted:
5,461	0.125

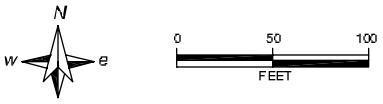
Cubic Yards of Fill:

405

Location:

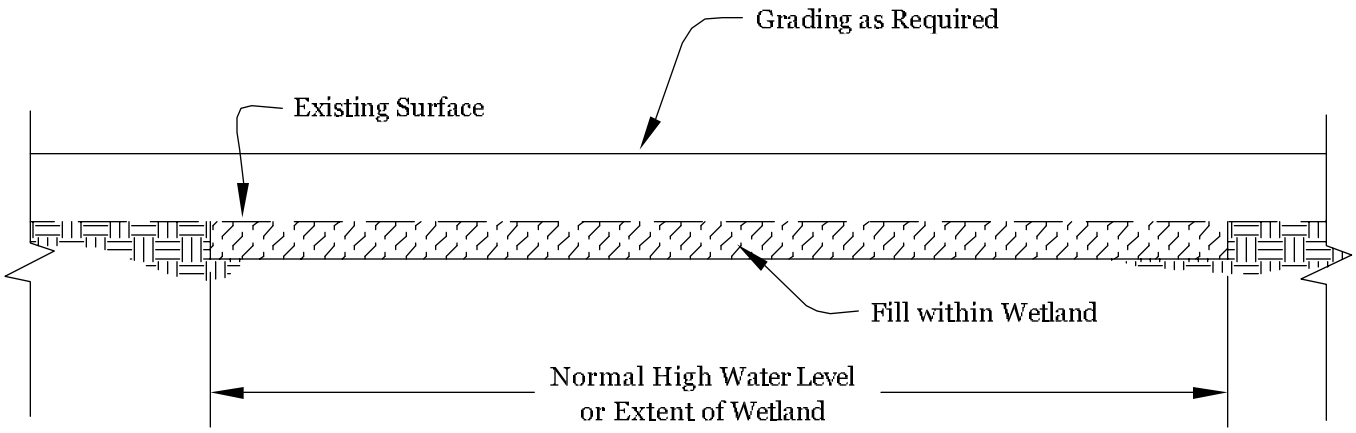
Near New Eagles Rest Upper Terminal





Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4b	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L2	1 May 2003 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L3

Impacted Wetland Type:

Herbaceous

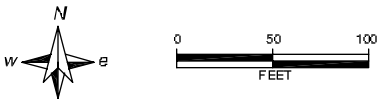
Square Feet Impacted:	Acres Impacted:
484	0.011

Cubic Yards of Fill:

0

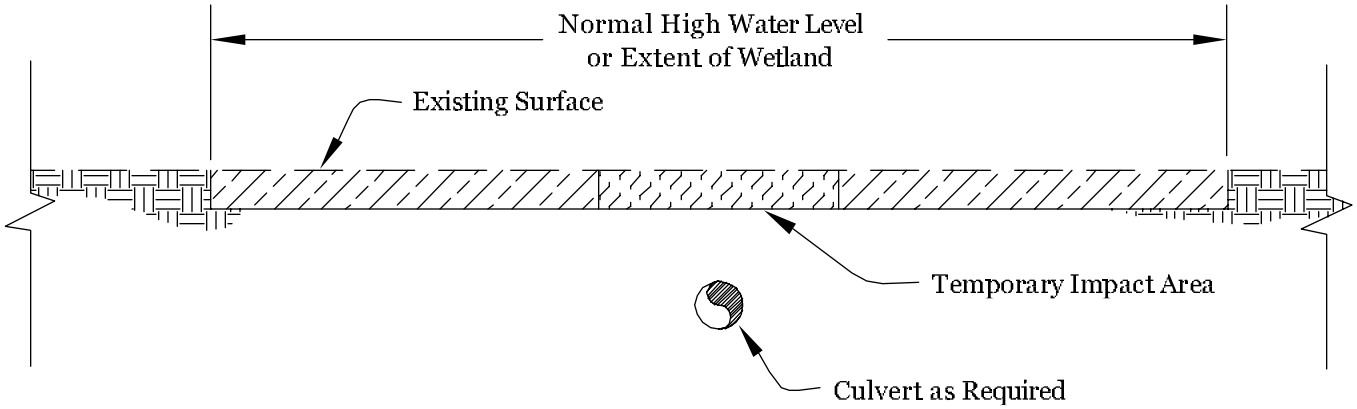
Location:

Culvert Near Teewinot Lift



Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4c	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L3	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L4

Impacted Wetland Type:

Forested

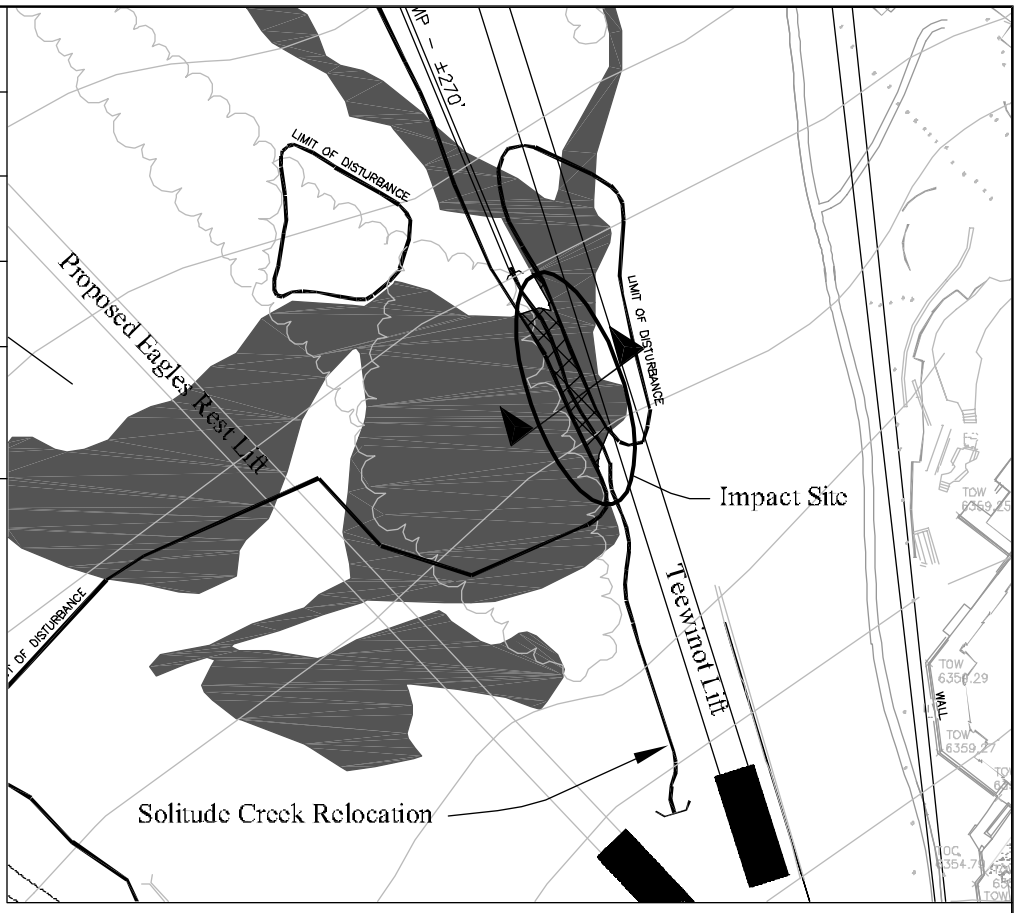
Square Feet Impacted:	Acres Impacted:
1,157	0.027

Cubic Yards of Fill:

0

Location:

Relocated Stream Near Teewinot Lift



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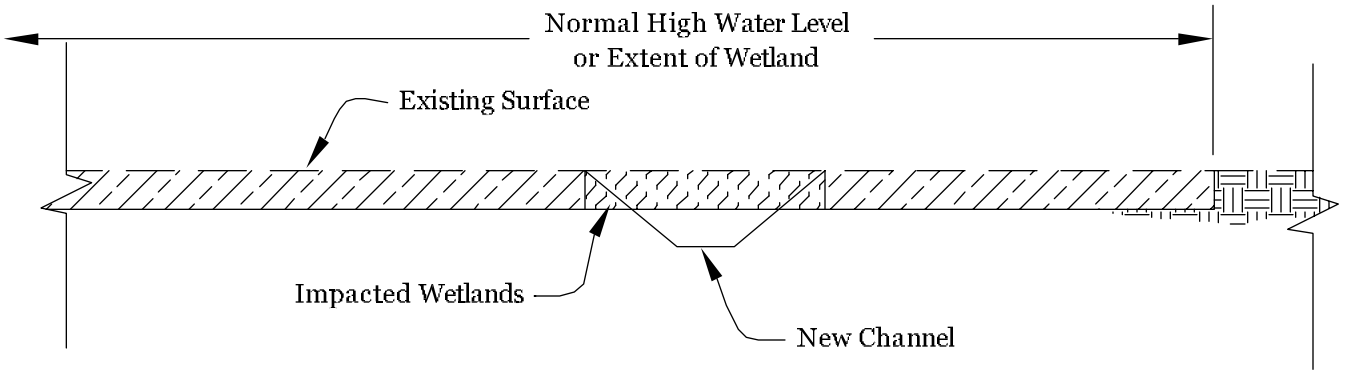
0 50 100
FEET

Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4d	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L4	404 Permit Mapping by: Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L5

Impacted Wetland Type:

Herbaceous

Square Feet Impacted:	Acres Impacted:
1,002	0.023

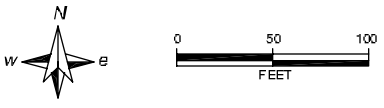
Impacted Wetland Type:

Forested

Square Feet Impacted:	Acres Impacted:
178	0.004

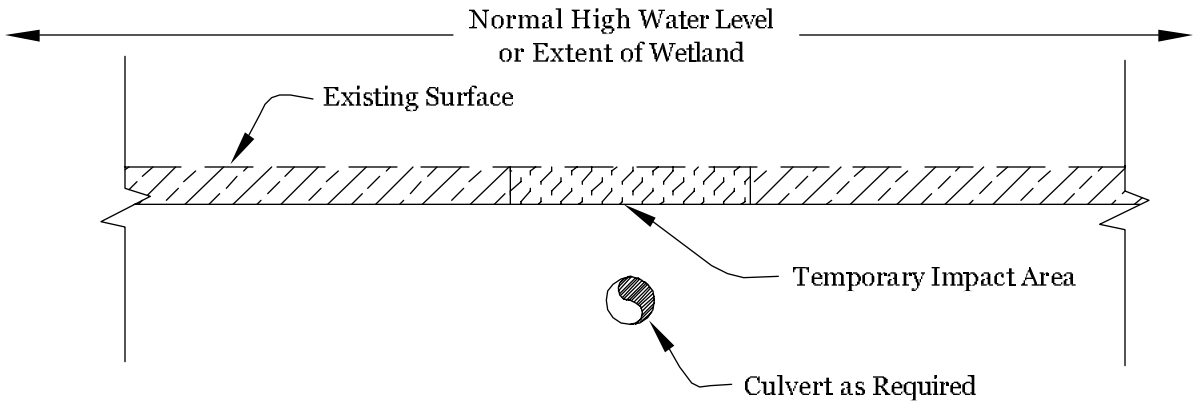
Location:

Lower Werner Trail



Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4e	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L5	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L6

Impacted Wetland Type:

Scrub/shrub

Square Feet Impacted:	Acres Impacted:
2,969	0.07

Cubic Yards of Fill:

220

Location:

Half Pipe

N

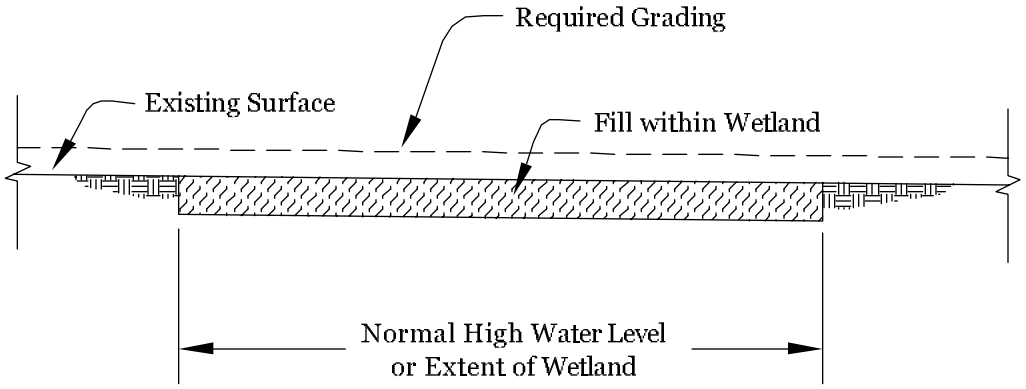
W E

0 50 100

FEET

Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4f	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L6	1 May 2008 404 Permit Mapping by: Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L7

Impacted Wetland Type:

Herbaceous

Square Feet Impacted:	Acres Impacted:
30	0.0007

Impacted Wetland Type:

Forested

Square Feet Impacted:	Acres Impacted:
36	0.0008

Location:

Top of New Eagles Rest Cut-Off Trail

N

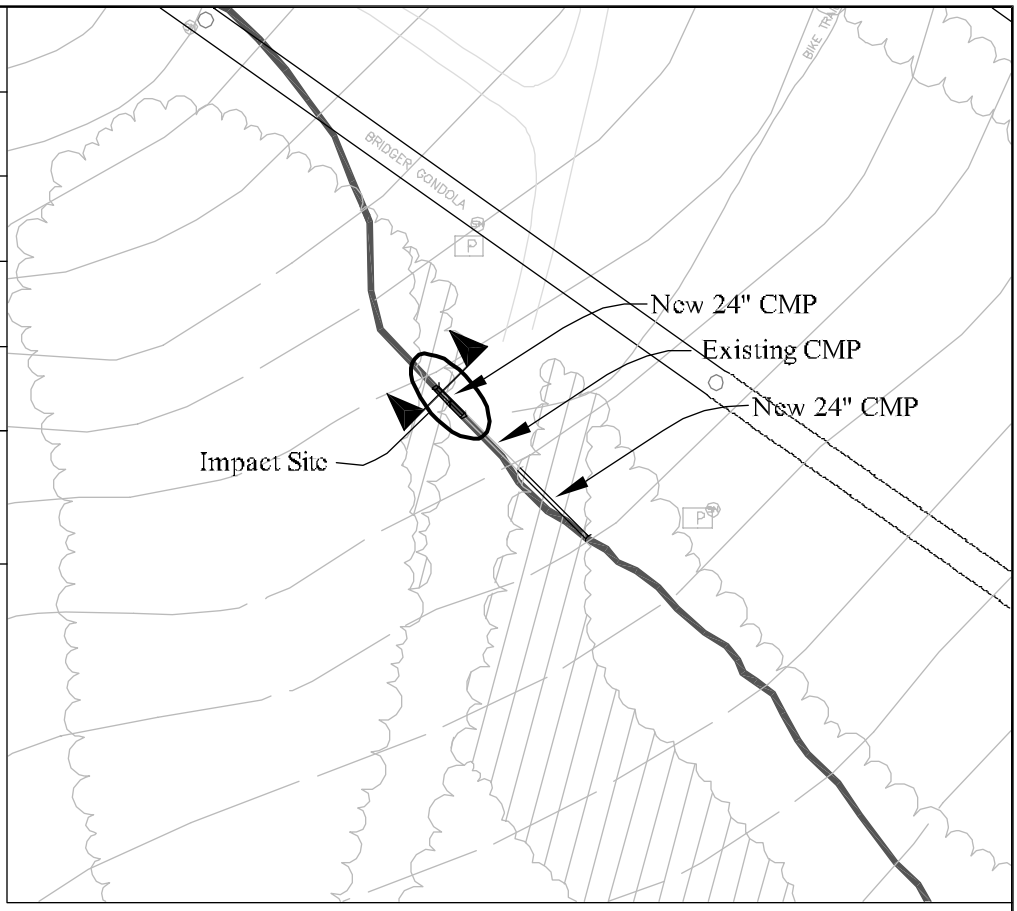
w e

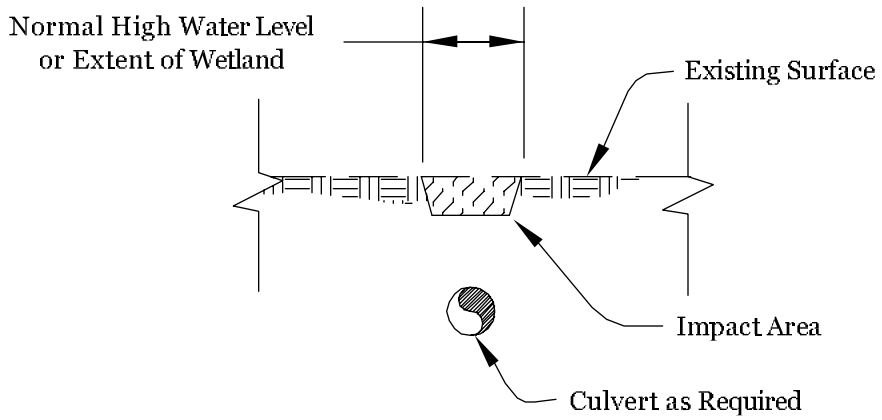
0 50 100

FEET

Delineated Wetlands

Wetland Impact Site





Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4g	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L7	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L8

Impacted Wetland Type:

Herbaceous

Square Feet Impacted:	Acres Impacted:
23	0.0005

Impacted Wetland Type:

Forested

Square Feet Impacted:	Acres Impacted:
136	0.003

Location:

Top of New Eagles Rest Cut-Off Trail

N

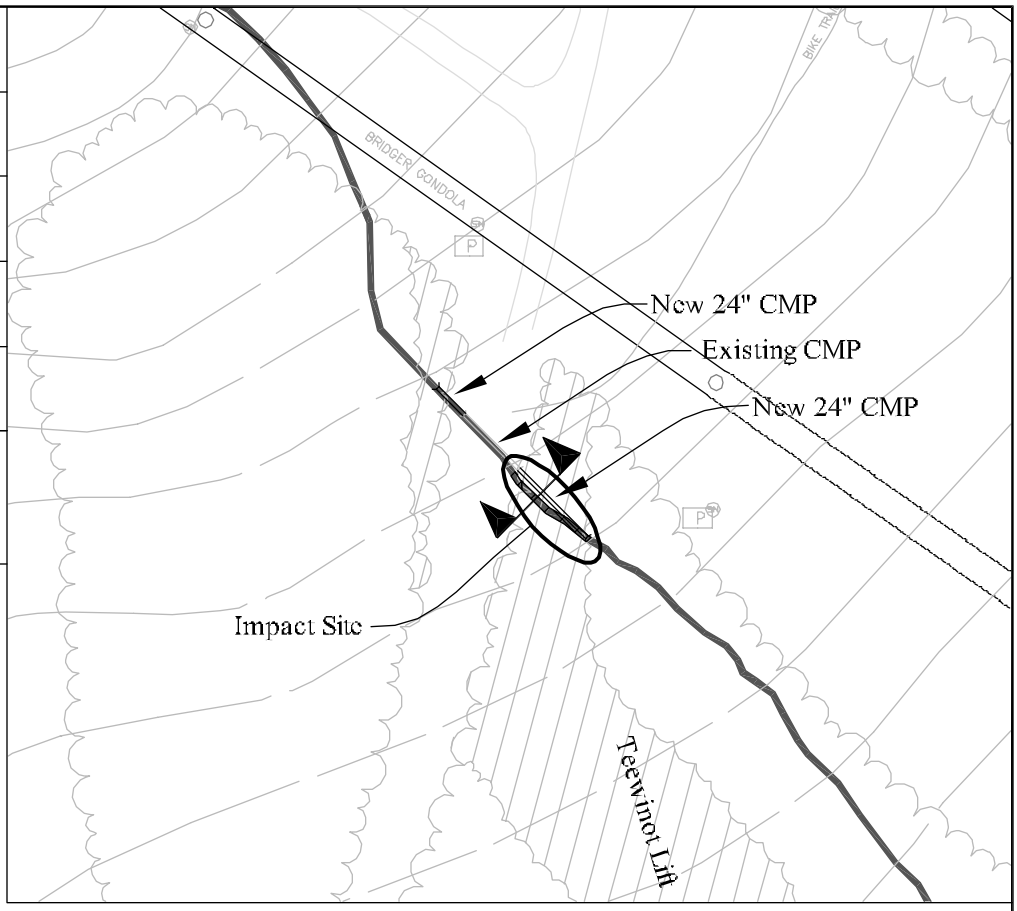
W E

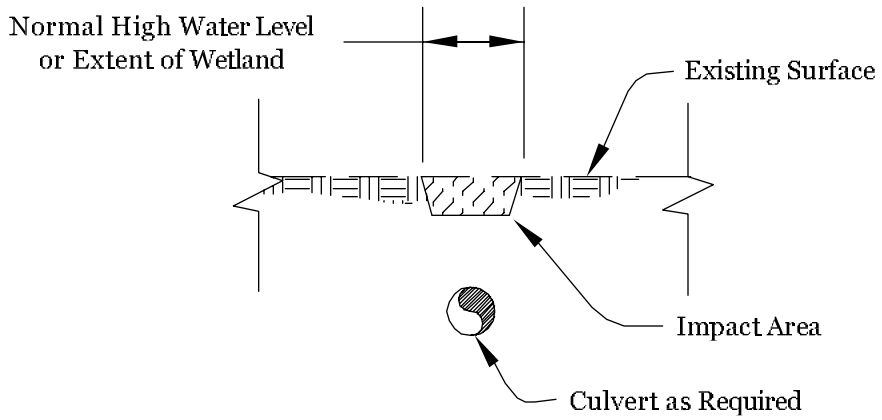
0 50 100

FEET

Delineated Wetlands

Wetland Impact Site





Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4h	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L8	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L9

Impacted Wetland Type:

Forested

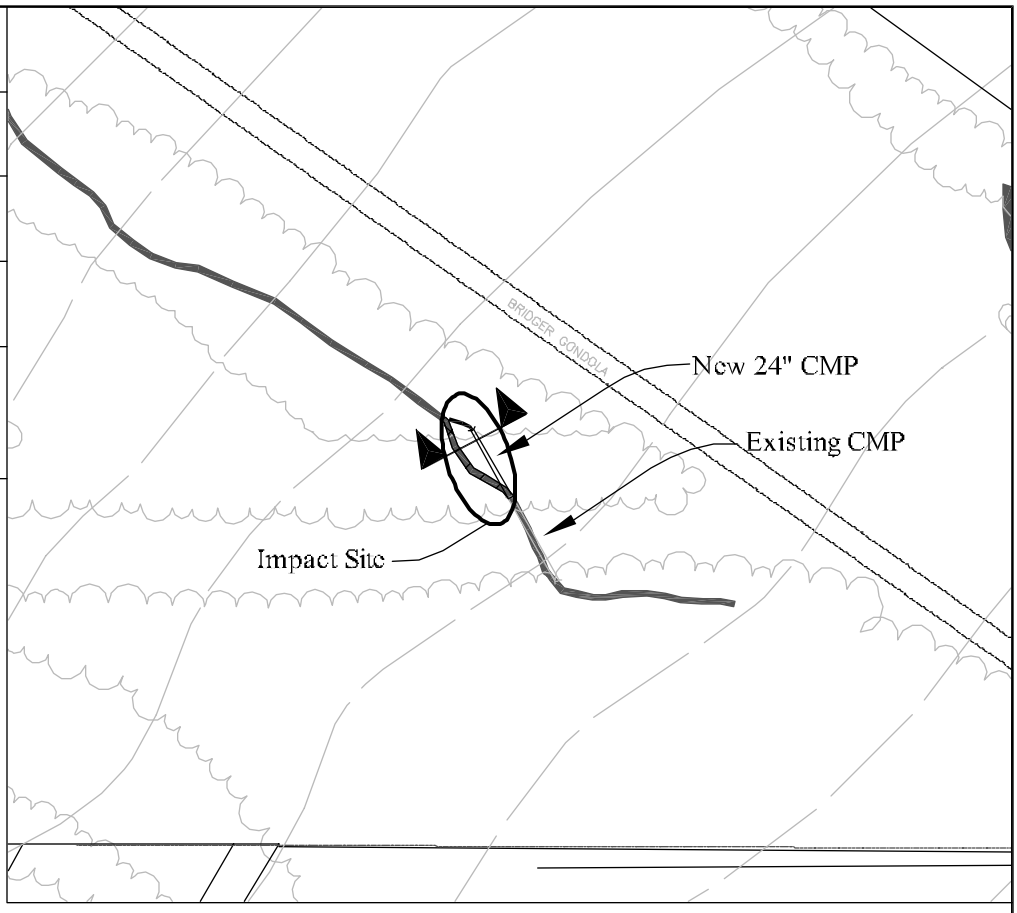
Square Feet Impacted:	Acres Impacted:
169	0.004

Cubic Yards of Fill:

13

Location:

Bottom of New Eagles Rest Cut-Off Trail

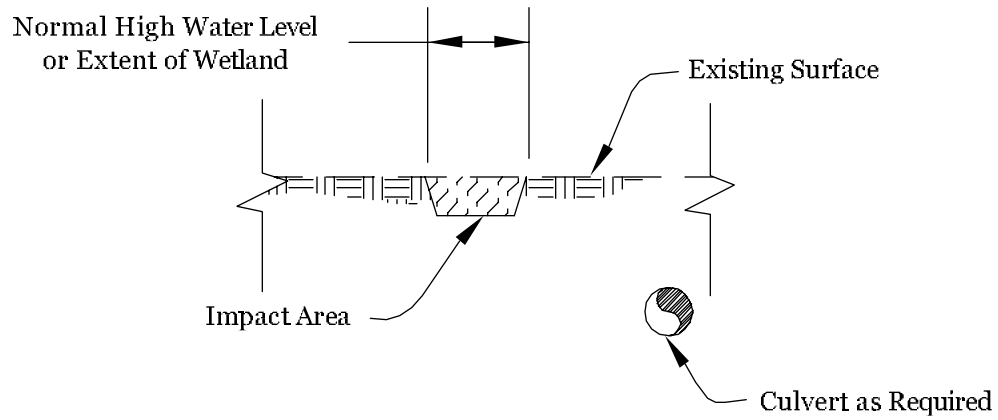


N
W
E

0 50 100
FEET

Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4i	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L9	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L10

Impacted Wetland Type:

Herbaceous

Square Feet Impacted:	Acres Impacted:
1,010	0.023

Impacted Wetland Type:

Forested

Square Feet Impacted:	Acres Impacted:
35	0.0008

Location:

Lower Antelope Flats Trail

N

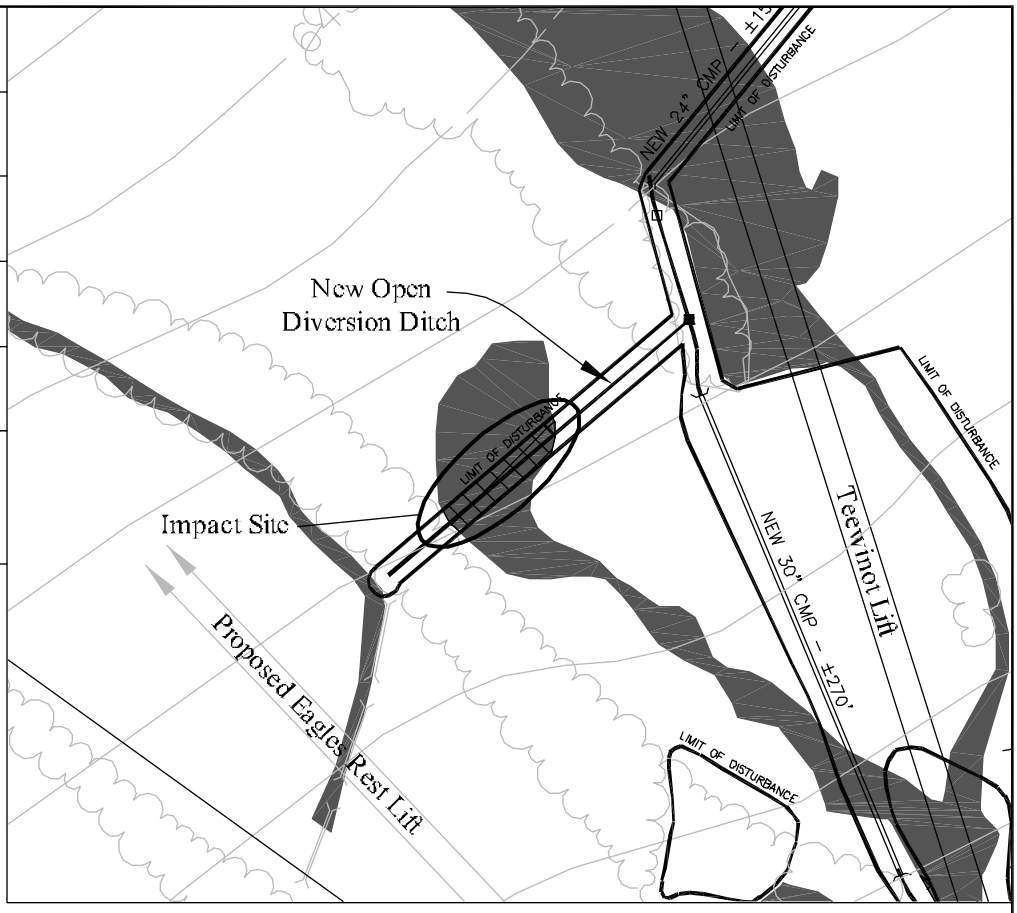
W E

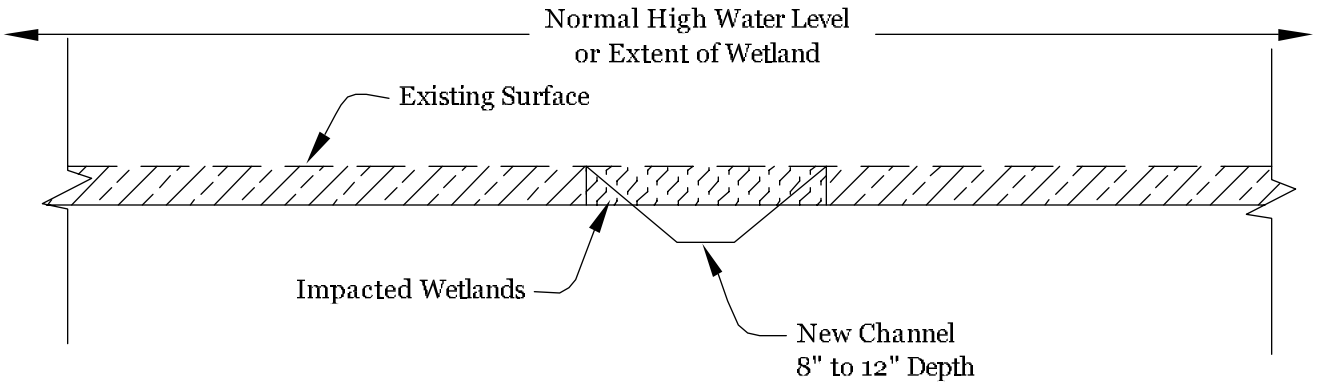
0 50 100

FEET

Delineated Wetlands

Wetland Impact Site





Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4j	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L10	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Impact Site:

L11

Impacted Wetland Type:

Herbacious

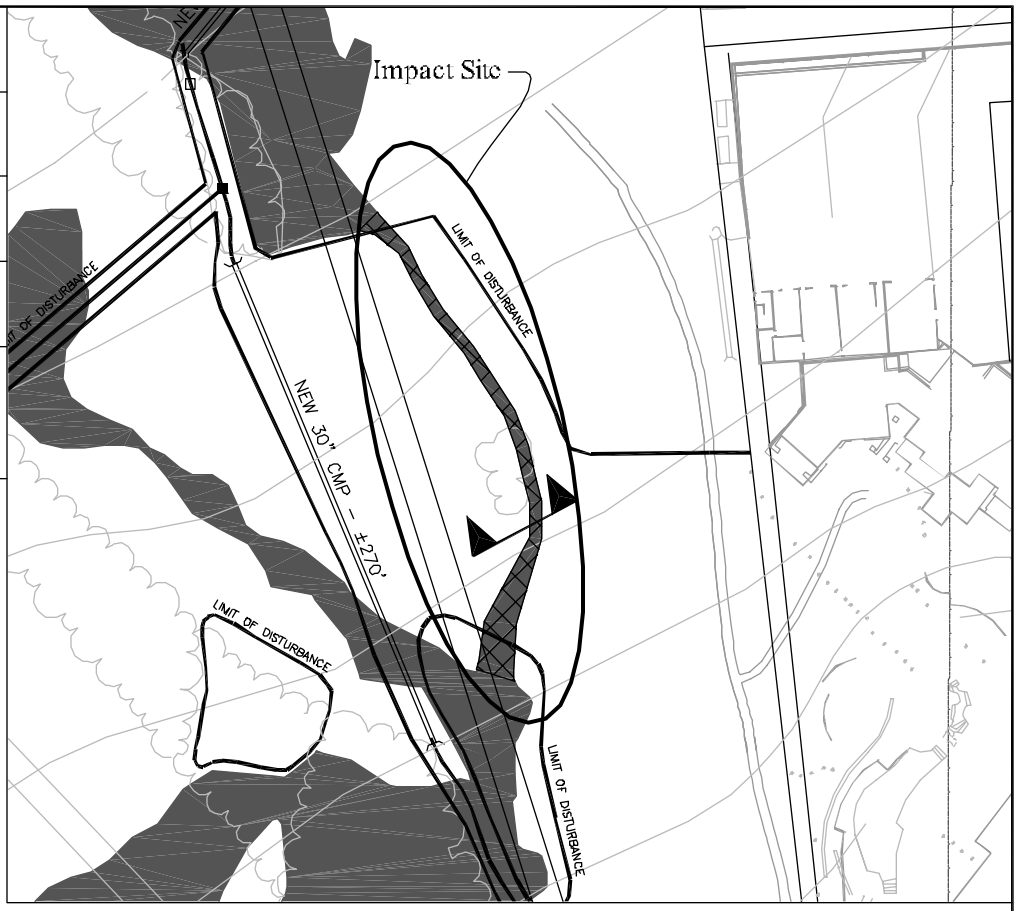
Square Feet Impacted:	Acres Impacted:
2,226	0.051

Cubic Yards of Fill:

165

Location:

Teewinot Trail



N

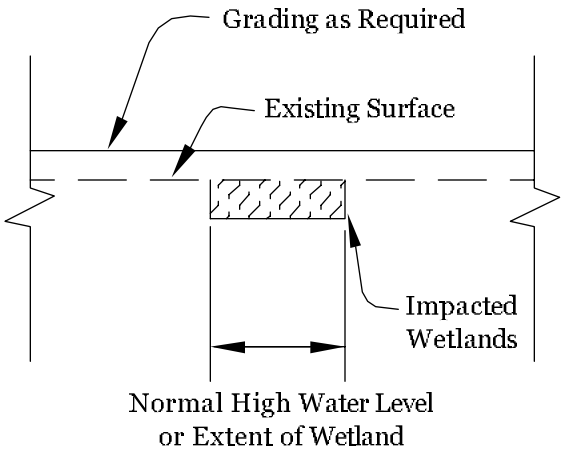
W E

0 50 100

FEET

Delineated Wetlands

Wetland Impact Site



Profile

1" = 10'

Sheet:	Applicant:	Title:	Consultant:
Figure 4k	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Impact Site L11	1 May 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Mitigation Area:

M1

Created Wetland Type:

Forested

Square Feet Created:	Acres Created:
9,135	0.21

Location:

Eagles Rest & Teewinot Lift Base Area

N

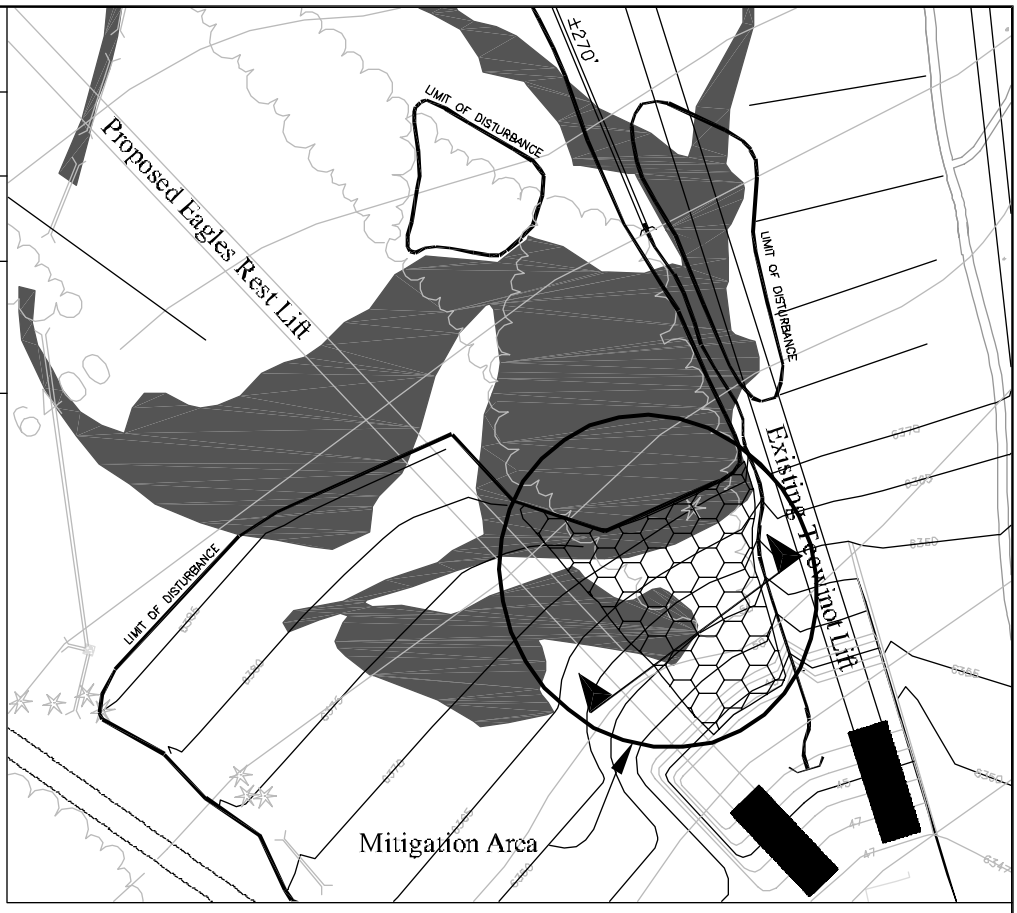
W E

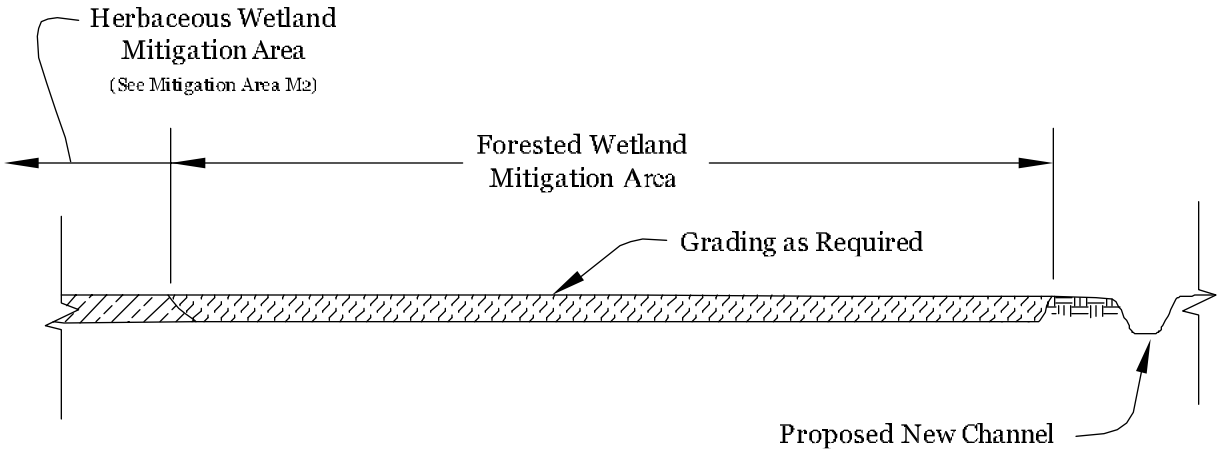
0 50 100

FEET

Delineated Wetlands

Mitigation Site





Profile

1" = 15'

Sheet:	Applicant:	Title:	Consultant:
Figure 4L	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Mitigation Area M1	28 April 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Mitigation Area:

M2

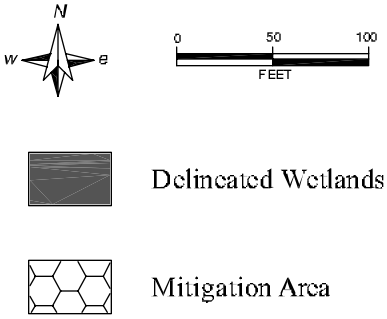
Created Wetland Type:

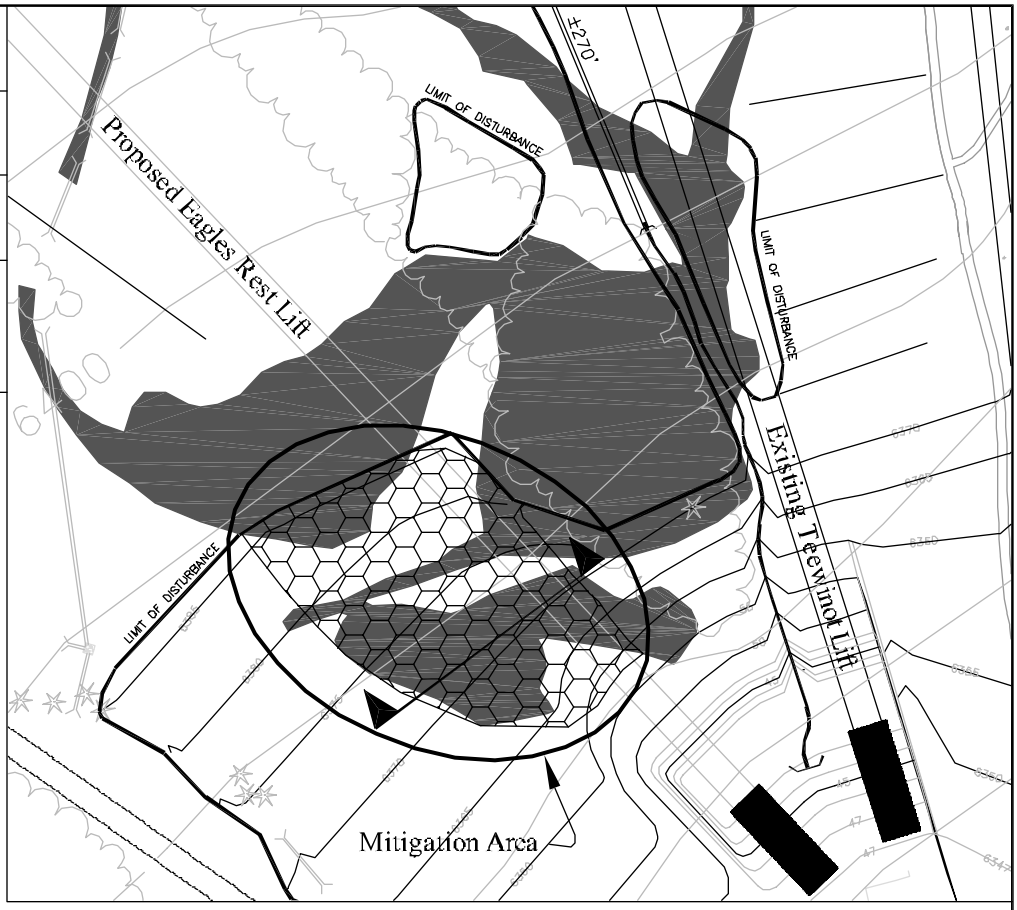
Herbaceous

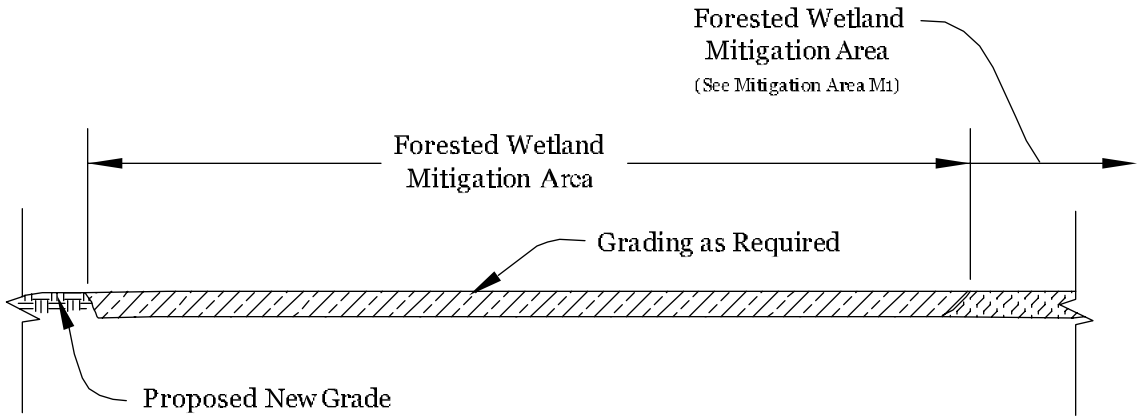
Square Feet Created:	Acres Created:
17,850	0.41

Location:

Eagles Rest & Teewinot Lift Base Area







Profile

1" = 15'

Sheet:	Applicant:	Title:	Consultant:
Figure 4m	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Mitigation Area M2	28 April 2008 404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering

Mitigation Area:

M3

Created Wetland Type:

Scrub/shrub

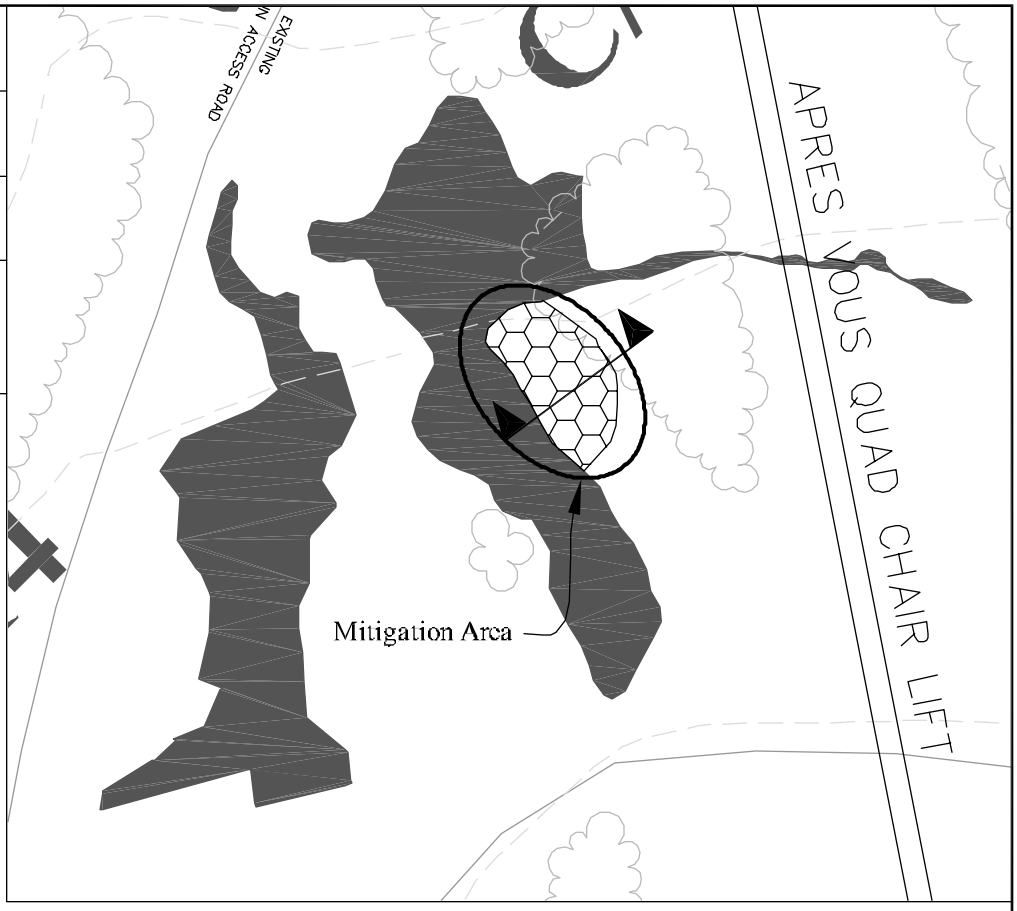
Square Feet Created:	Acres Created:
3,530	0.08

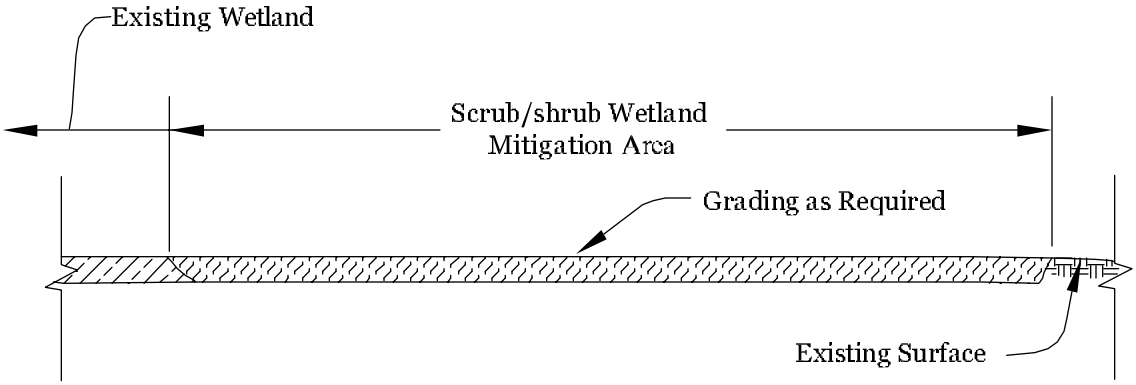
Location:

Near Apres Vous Quad Lift

Delineated Wetlands

Mitigation Area





Profile

1" = 15'

Sheet:	Applicant:	Title:	Consultant:
Figure 4n	Jackson Hole Mountain Resort Teton Village Teton County, Wyoming	Mitigation Area M3	404 Permit Mapping by: PIONEER Base map: Jorgensen Associates, P.C. & Nelson Engineering